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NATIONAL OIL SECURITY POLICY

HEARING

BEFORE THE

SUBCOMMITTEE ON ENERGY REGULATION AND CONSERVATION

OF THE

COMMITTEE ON ENERGY AND NATURAL RESOURCES UNITED STATES SENATE

ONE HUNDREDTH CONGRESS

FIRST SESSION

ON THE

IMPLICATIONS OF S. 694, A BILL TO PROVIDE A COMPREHENSIVE NATIONAL OIL SECURITY POLICY

JUNE 2, 1987

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NATIONAL OIL SECURITY POLICY

TUESDAY, JUNE 2, 1987

U.S. SENATE,
SUBCOMMITTEE ON ENERGY REGULATION AND CONSERVATION,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Washington, DC.

The subcommittee met, pursuant to notice, at 2:18 p.m., in room SD-366, Dirksen Office Building, Hon. Howard M. Metzenbaum, presiding.

OPENING STATEMENT OF HON. HOWARD M. METZENBAUM, A U.S. SENATOR FROM THE STATE OF OHIO

Senator METZENBAUM. I first want to apologize for starting this committee late. Somehow I had on my schedule that it was at 2:30 and did not realize that it actually had been set for 2.

Today this subcommittee will address the oil import reduction amendment contained in the Finance Committee trade bill.

Let me start off by saying that no one is more concerned than I am about the state of the U.S. oil industry and the plight of its workers. And no one wants to find ways to reduce U.S. dependency on foreign oil more than I do.

There are many areas of our economy that today are facing extreme hardship, but the U.S. oil industry and the U.S. steel industry are two of our most critical industries and are the two that are struggling the hardest. There is no question that they are in trouble. Our industrial strength, our national security, depends upon all of us working together to find ways to help these essential industries.

This nation cannot survive without a strong, viable domestic oil industry. So, it is not a question of whether we agree with the policies in any particular day or week or month or year of the oil industry, but the fact is that when all is said and done, our nation cannot survive without a strong, viable domestic oil industry and our national security is dependent on it.

But having said that, let me say that this oil import reduction amendment adopted by the Senate Finance Committee troubles me greatly. Frankly, I believe it will do more harm than good.

While the amendment might help the domestic oil industry, it could also set in place energy policies which could hurt everyone else from the domestic steel industry to the low income families trying to heat their homes in the winter.

Consider what would happen if the President imposed an oil import fee as he could do under this amendment. Imported oil prices would go up. Domestic oil prices would go up the same amount. An oil import fee would provide unjust enrichment to oil companies and it would not be enrichment necessarily for producing more oil. Consumers and businesses would wind up paying more for their energy needs.

But it is not just the energy policies which could be set in motion that concern me. The amendment also raises serious constitutional questions. Congress would hand over to the President its authority and responsibility to make policy.

According to the provisions, once the President projects that oil imports exceed an arbitrary level, he would be required to submit an energy program to Congress to reduce imports. It would be obligatory on him. He would be required to act. Congress would have 90 days to disapprove the program and there are no provisions for expediting this review.

Under this scenario it is conceivable that Congress using various procedures might not ever get to vote on some major policy questions.

What is even more troubling is the fact that we do not know what policies the President could propose under these provisions. Could the President change tax laws? Could the President suspend environmental and antitrust laws? Could he open the Arctic National Wildlife Refuge to oil and gas development or expedite the leasing of Federal on- and off-shore oil and gas properties?

We do know that the mandatory trigger mechanism could force the President to utilize the power he does have to impose oil import fees or quotas. Even though last year Congress twice overwhelmingly rejected import fees, it would be extremely difficult to defeat if delaying tactics were used by those who support the oil import fee.

Take a look over there at that chart. We need look no further than this chart to see that this amendment could result in policies which are extremely costly, harmful to the environment and thwart the will of Congress.

Such initiatives may limit oil imports. They may increase domestic oil production. But the real question is do they make good public policy.

Do we want to constrain Congress in its ability to adequately debate these issues?

Doesn't the price of oil and its effect on our industries and consumers have a place in the energy security equation?

I understand that this amendment may be changed to conform to current presidential authority available under section 232(B) of the Trade Expansion Act of 1962. This offers no greater certainty and no greater comfort. We will still have the arbitrary, mandatory trigger. We will still have uncertainty about what actions the President can take to reduce imports. We will still have the problems of congressional abdication of power and responsibility.

I have sent a letter to my colleagues stating that I would move to strike the oil import reduction amendment from the trade bill as reported by the Senate Finance Committee. Our witnesses today will share with us their reactions to the Finance Committee provision and the possible changes that might be offered.

Let me say in closing I am deeply concerned about our Nation's energy problems, but we cannot—we must not—attempt to solve these problems by having Congress cede its power and responsibility to the President. It is our responsibility as well.

Let's roll up our sleeves and get to work on establishing programs and policies which help our troubled industries. We should develop an energy policy that will decrease our energy vulnerability and ensure national security in the best and most responsible way.

I am very pleased my colleague from New Mexico is here with us today. Senator Domenici, I assume you have an opening statement?

Senator **Domenici**. Two of us are here.

Senator **Metzenbaum**. I apologize. I glanced here and didn't look up, Jeff. I apologize. Both from New Mexico.

Senator **Domenici**. It takes us both. [Laughter.]

Senator **Metzenbaum**. It takes you both? Now I know when the New Mexico squeeze is on.

Senator Bingaman, do you have an opening statement?

STATEMENT OF HON. JEFF BINGAMAN, A U.S. SENATOR FROM THE STATE OF NEW MEXICO

Senator **Bingaman**. I had a very short one, Mr. Chairman, I have one I will put in the record.

Let me just say I am a co-sponsor of Senator Bentsen's legislation. I believe it is a constructive proposal for dealing with the growing dependence on foreign oil. And I think the problem that you cite of ceding too much power to the President, as I understand from Senator Bentsen's testimony that we have in written form, he is having an amendment prepared to make it clear that the committee's intent is that the Energy Security Act in no way would expand the powers of the President beyond those he currently enjoys under section 232. So, I believe the amendment, as he would plan to alter it, will be a good piece of legislation, and I intend to support it on the floor.

I do think your other comment that you object to constraining Congress in its ability to adequately debate these issues I really think when the history of this period is written about, the only thing Congress is going to get credit for is adequately debating these issues. I do not think the chance of us doing very much constructive does not seem good. But I do think the time will come when we wish we would have taken some action.

[The prepared statement of Senator Bingaman follows:]

Statement of Senator Jeff Bingaman
Hearing on S. 694
June 2, 1987

I thank the Chairman of the Subcommittee for scheduling this hearing to consider S. 694, a bill to deal effectively with increasing oil imports. I am pleased to be a sponsor of this important legislation with my distinguished colleague from Texas, Senator Bentsen.

This bill would require the President to develop and implement policies to prevent crude and product imports from exceeding 50 percent, a level that would threaten our national security. The President is given the option of setting a lower ceiling if necessary.

I support this legislation because it is a significant step forward in our effort to address the growing concerns for our future energy security. The justification for this legislation and other affirmative actions that have been proposed by the Congress is clear. -

We see the clear effects of increasing imports throughout the nation and especially in New Mexico: industry cutbacks, loss of employment, weakened industry infrastructure, reduced drilling activity, shut-in-stripper wells and virtually no exploration. This nation currently imports approximately 40 percent of its domestic oil needs, and the National Petroleum Council predicts that in the year 2000 the U.S. will import between 52 and 58 percent of its demand. In 1984, the gross cost of importing crude oil and refined petroleum products was more than $59 billion, an amount approximately equal to 50 percent of the U.S. trade deficit. The cost of imports in 1986 was $28 billion as a result of lower oil prices. However, the Department of Energy has predicted that by 1995, oil imports may cost the equivalent of $80 billion.

Secretary of the Interior, Donald Hodel reiterated the seriousness of our growing reliance on imports this morning in testifying before this Committee on opening up the Arctic National Wildlife Refuge to oil and gas drilling. He acknowledged that America's growing reliance on imported oil could have potentially serious implications for our national security.

We must take effective action to restrain our growing dependence on imports. Senator Bentsen's legislation offers us this opportunity.

Senator **Metzenbaum**. Well, my point in that respect was that the way the language of the bill is drafted is that it would be 90 days for Congress to act, and as you well know, it is not too difficult to keep something from taking effect in the United States Senate and delaying it for the 90 day period so that Congress would never have an opportunity to act up or down. But I certainly have no problem about debating the issue.

Senator Domenici?

STATEMENT OF HON. PETE V. DOMENICI, A U.S. SENATOR FROM THE STATE OF NEW MEXICO

Senator **Domenici**. Well, thank you very much, Mr. Chairman. I have not co-sponsored the amendment yet, but I can assure you, and want the record to reflect, that I favor the goals and objectives of the Bentsen amendment. Perhaps the aspects of how we implement it and what the Presidential powers are ought to be addressed, and I assume they will.

Let me just say to my good friend, Senator Metzenbaum, we will hear from the steel manufacturers here.

One of the most interesting things happened to me down in Louisiana where we had a hearing with thousands of unemployed people in that state. I heard a witness talk about how much domestic steel usage is being lost in the United States because of the tremendous drop-off in rig count. And I was thoroughly amazed. The best I can give you in a very rough cut is that the drop in rig count and steel being used in the United States in one fiscal year since the precipitous drop in oil prices is the equivalent of all of the steel used by Ford Motor Company in all of its domestic automobile production.

So, I don't think this is an issue singularly of impacting on steel because of oil prices. There is also the impact on the United States of not having any oil production. Clearly our dependence is growing, and as it grows every American industry is put in jeopardy.

I can remember the impact not only on steel but every American business when the price of oil went to its height. And, it got there without an import fee imposed by the United States. We did not in any way get to effect our domestic policies other than to watch the price skyrocket because of the world situation.

It seems to this Senator that there is a clear difference of opinion, but there are a number of experts, and I hope we will hear from them also, Mr. Chairman. They have no vested interests. They are economists. Some of them are from Harvard. Some of them are from the west coast. Some are from the industry and some are from affected industries. And, they conclude the exact opposite from some of the testimony which will be presented here today in terms of overall economic impact on the American economy from a reasonable oil import fee of $5 a barrel or the like. I assume the testimony is much the same whether we are talking about quotas or whether we are talking about a fee. The distinguished Senator from Ohio opposes both, I assume, on the basis that there is no marketplace relationship between a quota and the price it brings and an import fee and the price it brings.

But I can guarantee you this. There is a market response to the current price of oil and to the price nine months ago, and it is down, down, down on American production and up, up, up on American demand and need from overseas oil. And that is not getting fixed. And at the same time we are in desperate need of revenues on the budget and deficit side, and we do not seem to be doing anything about that either.

I would also say to my good friend from Ohio if the objection to some kind of a fee—and I know that is not the case before us—is that it adversely impacts on one part or another of America. I assure you that gasoline taxes and diesel fuel taxes adversely affect the west as compared with the east. And if you were to marry up the two and have something like gasoline and diesel fuel taxes and a small import fee, you have some kind of equity on both eastern America and western America. That has been studied rather in depth by Harvard economists, by the Congressional Budget Office economists and the like. I think that discussion is relevant even though we are here talking about a triggered quota which has a similar impact obviously.

I thank you for calling the hearings. I look forward to today and other days of hearings on this issue.

Senator **Metzenbaum**. Thank you very much, Senator Domenici and Senator Bingaman.

I do want to say that you mentioned my opposition to quotas, as well as to an import fee. A $5 a barrel import fee means 12 and a half cents a gallon to consumers. A $10 fee means 25 cents a gallon.

With respect to quotas, I don't believe that I have actually addressed myself to that issue, and I am not certain that I have taken a position on that particular subject. It is fair to say that I started off being a free trader, but I have been somewhat changed, become a fair trader in connection with other industries. With respect to the question of oil, I don't think we have ever had before us the matter of quotas on imports, but I wanted to just correct the record that I have never actually taken a position on that subject.

I hear that there is just a roll call about to begin. Senator Bingaman, it has just begun. If you want to go over and vote and come back, we can keep the hearing going and you could preside in my absence while I go over to vote.

Let me say that Senator Chafee will be late, so I will accommodate him when he arrives. Senators Bentsen and Weicker have both submitted written statements that will be included in the record. And the hearing record will remain open pending the subcommittee's evaluation of the technical amendments to S. 694 referred to in Senator Bentsen's statement.

[The prepared statements of Senator Bentsen and Senator Weicker follow:]

STATEMENT OF HONORABLE LLOYD BENTSEN
ON
THE ENERGY SECURITY ACT OF 1987

SUBCOMMITTEE ON ENERGY REGULATION AND CONSERVATION
COMMITTEE ON ENERGY AND NATURAL RESOURCES

JUNE 2, 1987

Mr. Chairman, members of the Subcommittee, I am pleased to be able express my views regarding the impact of foreign oil imports on this nation's national security. This issue is an important one, and I believe the time to face up to the challenges it presents is long overdue. As the members of the Subcomittee are well aware, I have had an abiding interest in the issue of foreign energy dependence for quite some time, and welcome this opportunity to shed some light on the serious problem we face as a nation.

The national security implications of import dependence have been very much in the headlines for the last several months. I am referring, of course, to the almost daily commentary on this nation's growing reliance on foreign oil. Far from decreasing, the commentary continues to wax eloquent about our neglect of the global implications of America's addiction to importing so substantial a portion of its domestic energy needs. The most graphic illustration of the national crisis we face with regard to foreign oil dependence is the recent tragedy involving the U.S.S. Stark in the Persian Gulf. This needless loss of life occurred in part because we have reached a point in our national life whereby it is necessary to take military action -- no matter how well-intentioned and peaceful -- to protect our interests. I submit, Mr. Chairman, this is not a course we should relish following. It is fraught with danger and uncertainty, and it is a painful and embarrassing indictment of our national energy policy. Clearly, a new course must be charted.

I believe that the first steps in this process were taken when the Department of Energy (DOE) commissioned its study on energy security. In order to bring the process of analysis more sharply into public focus, DOE issued its long-awaited Martin Report on energy security in March of this year. To the surprise of no knowlegeable source in the domestic energy industry, the Report concluded quite emphatically that there exists a very real threat to the security of the United

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States in overdependence on imported oil. The President of the United States has echoed this view in his recent pronouncements on the subject.

This conclusion could only have been expected. This country indeed faces a serious threat to its national security. All the statistics point to it. The trends are alarming, and things are actually getting worse.

The economic impact of our overdependence on foreign oil imports is substantial. The domestic oil industry is in one of its worse slumps -- ever. Consider, if you will, that U.S. production of crude oil and natural gas liquids has fallen by 830,000 barrels per day in the past year, a decline of 8 percent to the lowest point in a decade. The experts are saying that we can expect this decline to accelerate in the weeks ahead.

All of this is occurring at a time in our history when we have not pursued vigorously energy conservation techniques. Consumption is on the rise -- rapidly. Total demand for petroleum products in 1986 was more than 3 percent higher than it was in 1985. It's up about 2 percent from this time a year ago. Oil demand is some 1.4 million barrels a day above its level of two years ago. Consumers are forgetting the painful lessons of the past. Conservation is passe. We are on an oil consumption binge, and there is no effective leadership to bring us back to the harsh realities of the times. We have limited energy resources and should take care to manage them wisely.

But how do we satisfy this voracious appetite? We increase our imports! That is the most distressing factor in the equation. Imports are way, way, way up. Imports of crude oil and petroleum product have risen by more than 1.4 million barrels per day in two years, an increase of 30 percent. We imported 27 percent of the oil that we consumed in 1985. The figure was 37 percent in 1986, and it hit 40 percent during peak periods of energy demand in the winter of 1986-1987.

Mr. Chairman, I do not think that I speak in hyperbolic terms when I say that this nation has become addicted to foreign oil. A number of reputable studies predict that we will be importing more than half of the petroleum that we consume within the next few years. A study prepared by Professor Fisher of the University of Texas indicates that we could cross the 50 percent mark in 1989 if consumption continues its sharp rise.

There are those who survey these statistics and express no dismay at all. Levels of oil imports don't matter, they say. What really matters is where the oil is coming from. Let's suppose for a minute that their hypothesis is right. If it is, we're in real trouble.

All that new oil flooding into the country isn't coming from Canada, Mexico or Venezuela. It's coming from the Middle East, especially from Saudi Arabia and the Persian Gulf. We imported about 300,000 barrels a day from the Persian Gulf in 1985. Today we import nearly a million barrels a day. The source of the supply is easily explained. The super-giant fields of the Persian Gulf are the fields from which oil can be lifted for pennies a barrel. Those are the fields that will always supply the extra barrels that we import. Overdependence on them, however, may end up costing us far more than we can afford to pay.

There are those who see the flood of oil coming in from the Persian Gulf and still are not alarmed. Those new imports don't matter, they say. What really matters is that we are getting only 6 percent of our oil from that unstable source. They assure us that everything is fine as long as that figure does not rise too high. In my view, they seem to prove a lot, but only because they point out so little.

The Japanese receive 60 percent of their oil from the Persian Gulf, about 2.5 million barrels a day. Italy gets 51 percent of its supply from there, and France takes 33 percent. Under international agreements, the United States would be obligated to share in any oil supply shortfall among the industrialized nations. Their loss would be ours, and our loss would be theirs. Our 6 percent dependence on Persian Gulf oil is only one part of a bigger picture of dependence.

Because I alarmed by these statistics, I introduced the Energy Security Act of 1987 on March 10. The primary co-sponsor of the legislation is my good friend from Wyoming, Senator Malcolm Wallop. Twenty-three other Senators, Republicans and Democrats from producing and non-producing states, joined us in this effort. We all believe that there is a reasonable, measured action that we can take today to prevent a calamity tomorrow.

On May 7, twelve members of the Committee on Finance voted to add the Energy Security Act to S. 490, the Omnibus Trade Act of 1987. The Committee intended that the Energy Security Act be a modification of Section 232 of the Trade Expansion Act of 1962. As you know, Section 232 authorizes the President to "take such action, and for such time, as he deems necessary to adjust imports of any article or its derivatives so that such imports will not threaten to impair the national security," subject to congressional disapproval in the case of petroleum imports. This authority has existed for more than three decades and has been used by several Presidents in a variety of ways to control imports of oil. Thus, it is apparent that the Energy Security Act proposes no drastic remedy to the problem of dependence on foreign oil. It gives the President no authority that he does not already possess under Section 232. The Energy Security Act only requires that the President use his powers when oil imports are projected to reach critical levels. Committee staff is preparing a technical amendment that will clarify the Committee's intent that the Energy Security Act in no way expand the powers of the President beyond those that he currently enjoys under Section 232. I will offer that technical amendment on the floor when the Omnibus Trade Act is brought up for debate, and I urge all my colleagues to support it.

The Energy Security Act is simple legislation. It would establish a national policy under which we would not become more than 50 percent dependent on foreign petroleum to meet our need for oil. The Energy Security Act would effectuate this policy by requiring the President to submit to Congress with his yearly budget a projection of U.S. oil production, demand and imports three years into the future. Congress would have ten days to review the projection and could disapprove it by joint resolution. Once the projection became effective, however, the Energy Security Act would provide that if the projection showed imports meeting more than 50 percent of demand in any of the three years, the President would have 90 days to submit to Congress a plan designed to prevent foreign oil dependence from exceeding the 50 percent level in the year projected. Congress would have 90 days to disapprove the plan by joint resolution. If Congress did not disapprove it, the plan would go into effect. In drawing up the plan, the President would be able to include only those actions currently available to him under Section 232.

To those who say that Congress should not involve itself in the exercise of presidential authority to control oil imports under a broad national security statute like Section 232, I respond that we have already addressed the issue. In 1980, Congress reviewed Section 232 and determined that when the President exercised his powers thereunder in connection with oil, but not any other imports, Congress would reserve unto itself the ability to disapprove his action. Congress has already concluded that it has a special role to play in the oil-related exercise of Section 232 power. It is in the spirit of that congressional decision that the Energy Security Act is offered. If Congress is competent to say when the President should not act under Section 232, it is also competent to say when he should.

Mr. Chairman, members of the Subcommittee, I thank you for your invitation to submit testimony on the Energy Security Act.

STATEMENT OF

SENATOR LOWELL WEICKER, JR.

CONSIDERING S. 694, THE ENERGY SECURITY ACT OF 1987

SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES

JUNE 2, 1987

I WOULD LIKE TO THANK YOU, MR CHAIRMAN, FOR HOLDING THIS HEARING AS THIS IS AN IMPORTANT ISSUE AND ONE THAT I FEEL REQUIRES THOROUGH CONSIDERATION. I HAVE SERIOUS RESERVATIONS WITH THE PROPOSED BILL BEFORE US TODAY. I FEEL THAT WE CAN MORE EFFECTIVELY APPROACH THE ISSUE OF ENERGY SECURITY THROUGH DIFFERENT AND, I FEEL, MORE EFFECTIVE MEANS. THIS BILL MANDATES THE PRESIDENT TO SET AN ARBITRARY CAP ON THE LEVEL OF IMPORTED OIL, AND ALLOWS ACTIONS AND POLICIES THAT, UNLESS MODIFIED OR DISAPPROVED BY A JOINT RESOLUTION OF CONGRESS, WOULD BE MADE BINDING ON THE PART OF THE PRESIDENT AND THE NATION. I BELIEVE THAT THE INTENT OF THE BILL BEFORE US CAN BE SERVED THROUGH MORE APPROPRIATE, AND PERHAPS MORE EFFECTIVE MEANS. SOME OF THE ACTIONS THEMSELVES, WHICH THE PRESIDENT WOULD BE ALLOWED TO CONSIDER, HAVE BEEN FOUND TO BE DETRIMENTAL IN THEIR OVERALL EFFECTS ON THE NATION.

THROUGH THIS BILL, THE PRESIDENT WOULD BE RESTRICTED TO AN ARBITRARILY SET LEVEL OF FOREIGN OIL IMPORTATION IN HIS ABILITY TO NEGOTIATE WITH TRADING PARTNERS AND SUPPLY SOURCES IN PROVIDING A STABLE ENERGY SECURITY FOR THE UNITED STATES. SECTION 232 OF THE TRADE EXPANSION ACT OF 1962 ALREADY PROVIDES

THE PRESIDENT WITH THE AUTHORITY TO ACT UPON THREATS TO NATIONAL SECURITY OF THE COUNTRY. FURTHER, SECTION 232 HAS CLEARLY BEEN SHOWN TO BE ABLE TO DEAL WITH THE ISSUE OF DESTABILIZING OIL IMPORTS AS EXAMPLED BY THIS ADMINISTRATION CURTAILING IMPORTATION OF LIBYAN OIL STOCKS INTO THE U.S. IN 1982.

THIS BILL PROPOSES THAT THE PRESIDENT MAY SUBMIT A POLICY STATEMENT THAT UNLESS MODIFIED OR DISAPPROVED BY A JOINT ACTION OF CONGRESS, WILL BE BINDING. FURTHER, WE IN CONGRESS ARE GIVEN A STRINGENT TIME LIMIT WITHIN WHICH WE MUST REACT. I HAVE SERIOUS RESERVATIONS WHETHER THIS IS AN ACCEPTABLE ROUTE THROUGH WHICH SUCH POLICIES SHOULD BE CONSIDERED.

THIS BILL DESIGNATED THE LEVEL OF 50% AS A THRESHOLD LEVEL OF IMPORT VERSUS DOMESTIC OIL THAT IS SIGNIFICANT FOR OUR SECURITY. I BELIEVE THIS IS AN ARBITRARILY CHOSEN LEVEL. S.694 PROPOSES THAT WHEN THE LEVEL OF OIL IMPORTED EQUALS THE LEVEL OF OIL THAT WE PRODUCE; ACTION MUST BE TAKEN. I BELIEVE THAT WE HAVE AN ACCEPTABLE SYSTEM IN PLACE NOW TO ADDRESS PRESENT AND FUTURE THREATS TO OUR NATIONAL SECURITY BY IMPORTED OIL.

THE POLICY THAT THE PRESIDENT COULD ENACT INCLUDES SEVERAL DIFFERENT ACTIONS. I DO NOT AGREE WITH SOME OF THESE ACTIONS PROPOSED. I BELIEVE CURRENT LAW PROVIDES AMPLE AUTHORITY TO RESPOND AND EFFECTIVELY DEAL WITH DESTABILIZING IMPORTS. ONE PROPOSED ACTION, AN OIL IMPORT FEE, IS CLEARLY NOT IN THE BEST LONG-TERM INTERESTS OF OUR ECONOMY. AS SUPPORTED BY THE ENERGY SECURITY REPORT, PREPARED BY THE DEPARTMENT OF ENERGY, THE

PROPOSED CONSIDERATION OF AN OIL IMPORT FEE WOULD HAVE AN OVERALL DETRIMENTAL EFFECT ON OUR ECONOMY.

THIS BILL WOULD HAVE SEVERAL EFFECTS THAT CAN NOT BE PROJECTED PRECISELY, BUT ARE SIGNIFICANT ISSUES THAT MUST BE CONSIDERED. ONE EXAMPLE, WE MUST REMEMBER THAT MUCH OF OUR OIL IMPORTS COME FROM NEIGHBORING OR ALLIED COUNTRIES. THE ACTIONS DESCRIBED IN THIS BILL WOULD POTENTIALLY DAMAGE THEM FINANCIALLY AND PROVIDE THE U.S. NO ADDITIONAL SECURITY. FINALLY, THIS BILL MAY WELL INVITE RETALIATION FROM OUR TRADE PARTNERS THUS, POTENTIALLY INJURING OUR ECONOMY.

I HAVE DESCRIBED MY REASONS FOR MY CONCERNS AND OPPOSITION OF THIS PROPOSED LEGISLATION. THIS IS A COMPLEX ISSUE AND INVOLVES THE CRITICAL ISSUE OF THE FUTURE ENERGY SECURITY OF THE UNITED STATES. ON THAT POINT, I AGREE WITH THE COSPONSORS OF THIS BILL THAT THE IMPACT OF OIL IMPORTS IS CRITICAL TO OUR NATIONAL SECURITY. HOWEVER, I FEEL THAT THIS BILL DOES NOT PROPOSE A SOUND METHOD OF ASSURING A SECURE FUTURE OF ENERGY SUPPLY AND CONSUMPTION.

Senator METZENBAUM. Our first witness this afternoon is the Honorable William F. Martin, Deputy Secretary of Energy, accompanied by Mr. Scott L. Campbell, Director, Office of Policy, Planning and Analysis, Department of Energy; and the Honorable Paul Freedenberg, Assistant Secretary for Trade Administration, Department of Commerce.

Gentlemen, I have been told during the noon hour that there are going to be a number of votes on the floor this afternoon. The first one just started. If it wouldn't be an imposition on you, I would ask you if you could make your remarks within five minutes. Your entire statements will be included in the record. If you go over 30 seconds, it is very, very easy to get along with me. If you go over much more, not so easy.

Mr. Martin, happy to have you with us, sir.

STATEMENT OF WILLIAM F. MARTIN, DEPUTY SECRETARY, DEPARTMENT OF ENERGY, ACCOMPANIED BY SCOTT L. CAMPBELL, DIRECTOR, OFFICE OF POLICY, PLANNING AND ANALYSIS

Mr. MARTIN. Thank you, Mr. Chairman, and thank you for the opportunity to discuss S. 694.

I think it is safe to say that we share your concerns and also Senator Bentsen's and Senator Domenici's and Senator Bingaman's about energy security and the direction that we are taking in the coming years. Quite frankly we are concerned about the provisions of this bill. Let me address each of the three points that we have concern with.

The first is whether or not 50 percent is a good indicator of an energy security threat. I would like to put up a couple charts quickly to show you why I think looking at oil imports in and of themselves is not necessarily a good indicator. The first visual shows different levels of imports at different levels of disruptions in time. As you can see, our imports, both with the Arab embargo, Iranian revolution, the beginning of the Iran-Iraq war and today are pretty much the same. And yet, we know with the Arab embargo and the beginning of the Iranian revolution we suffered severe market dislocations. The question becomes why.

I would like to put up a couple other charts which show you what lay behind these which might have had as much effect on the oil market——

Senator METZENBAUM. Just a moment.

Mr. MARTIN. Yes, sir?

Senator METZENBAUM. Before he covers the chart—that is the only reason I said just a moment. As I see your chart, it is rather interesting that the percentage of imports has actually decreased since the Iranian revolution. Is that right?

Mr. MARTIN. They had actually decreased quite significantly. In fact, by 1985 they were much lower than we show for 1986. They are on an upward slope again. But our imports had, in fact, been reduced quite significantly.

Senator METZENBAUM. So that the claim of the oil industry that the imports have been clobbering them is not confirmed by these charts. Or am I not understanding something?

Mr. **Martin**. I think what is of concern to all of us is that our imports are on the rise. In 1985 our imports were less than 5 million barrels a day. In 1986 they climbed to 5 and a half. And it is the direction that concerns us. But it is an interesting fact that given a comparable level of oil imports, sometimes we have had trouble; sometimes we have not. The interesting fact is that we didn't even get to a 50 percent trigger with the Arab embargo or the Iranian revolution. So, I'm really addressing here is 50 percent a good number.

Senator **Metzenbaum**. And is it also not a fact that there has been a downward trend on the amount of oil consumption in this country?

Mr. **Martin**. That's right. In fact, we do not use any more energy than we did in 1975. And we use less oil because of conservation.

Senator **Metzenbaum**. All right. Do you want to put up the other chart?

Mr. **Martin**. Next chart please.

This shows us that one of the major features that is of concern to us when we have a disruption is how much oil is available from other sources. And as you can see in the Arab embargo and the Iranian revolution, the red is the gross disruption, how much was disrupted from the world oil market. The blue is how much oil came onto the market from other sources outside the disrupted area. And as you can see, the Arab embargo and the Iranian revolution—we didn't have much oil outside of the disrupted region, and therefore we paid dearly. When the Iran-Iraq war began, there was more of an even balance.

I think the interesting point today is we have something on the order of 10 million barrels a day of surplus capacity around the world. It is important to note that two-thirds of that come from the Persian Gulf though. But again, here is another important indicator about how secure we are.

Let me go to the next chart. Stocks are also important. Again, looking back to 1973 and 1978, we didn't really have that many stocks under the control of government. In case of 1980 we had a lot of private sector stocks that came onto the market and helped soothe the Iran-Iraq war—beginnings of that war. As you remember, in 1980 we didn't face a market disruption. So again, in 1986 we see that we have a lot more stocks today primarily because of the Strategic Petroleum Reserve. So, the level of stocks that can be brought to the market is another important indicator of energy security.

And the last chart is degree of dependence on OPEC and on the Persian Gulf. And again, we can see that our dependence on OPEC and the Persian Gulf has been reduced over time, and that today only 26 percent of the world's oil comes from the Persian Gulf.

I might also add, however, in our own projections we show this increased share from the Persian Gulf and from OPEC increasing. But the point of the chart is that the lower the degree of dependence on a disrupted area, the more secure we are.

So, let me conclude by saying there is a lot more at work here than just the oil import figure itself. And we need to monitor many, many parts of the oil market including the development of alternatives and what is happening in conservation.

Another concern of ours is that the legislation requires us to make accurate forecasts. And I do not want to say our forecasts have not been that accurate in the past, but quite frankly, your staff asked us to go back and compare the projections with reality. And quite frankly, they are off a little bit. Now, we think we are improving, but indeed the whole basis of this legislation is based on what we project for three years. And as you know, most energy economists now prefer to do a range of scenarios as opposed to single set projections. So, that is a concern of ours.

Another is the automatic nature of the bill. And regardless of the cost involved, the President would be required to propose a policy for limiting imports. And such a policy could have economic or other costs that could far outweigh the security benefits.

A final question of ours concerns the bill's provision of authority to the President. We understand that an amendment to the bill is being prepared which could limit the President's authority to take action in those procedures established by the Trade Expansion Act. This might, in fact, restrict the President's options to a few steps that would directly reduce imports, for example, through import tariffs or quotas. This could limit the President's flexibility to respond to future energy security risks.

Well, let me go back to my beginning point.

Senator **Metzenbaum**. Before you go back to your beginning, let me go back to the floor of the United States Senate to cast a vote. If Senator Bingaman arrives, he will reconvene the hearing, but temporarily we stand in recess until one of us gets back.

[Recess.]

Senator **Metzenbaum**. The committee will come back to order. I was just about back here until we got another roll call vote, and I had to leave again.

Mr. Martin, you were somewhat into your testimony, and since we have a five minute rule and you were up to about 12 minutes, do you think you could maybe finish up in another 2 or 3?

Mr. **Martin**. I will finish up in three sentences.

Senator **Metzenbaum**. OK.

Mr. **Martin**. Not counting that one, Senator.

In conclusion, we are very concerned about the oil industry and the rate of increase of imports and the concentration of oil ultimately in the Persian Gulf. And that is why the President has presented some ideas, and that is why we are consulting with the Congress in a number of committees, and want to work with the Congress.

Let me conclude that we must give ourselves the flexibility to tailor any response to the particular circumstances we may face in the future based on our best judgment from the perspective of many national priorities. And the automatic nature of this really concerns us, and that is why we oppose S. 694.

Thank you.

[The prepared statement of Mr. Martin follows:]

Testimony of

William F. Martin
Deputy Secretary of Energy

before the

Subcommittee on Energy Regulation and Conservation
Committee on Energy and Natural Resources
U.S. Senate

June 2, 1987

Opening Remarks

Mr. Chairman and Members of the Subcommittee:

Thank you for providing me with the opportunity to appear before you today to present the views of the Department of Energy on S. 694, a bill proposed by Senator Bentsen to establish a national security policy designed to limit United States dependence on foreign oil supplies.

This bill would require the President to set a ceiling level for U.S. oil imports, with the ceiling not to exceed 50 percent of consumption. It then would mandate that the President prepare annual projections of U.S. oil market trends over the following three years. The President would have to provide these projections to the Congress along with a certification of whether U.S. oil imports would exceed the ceiling level. Finally, in the event that the certification indicated that the ceiling would be exceeded, the bill would require the President to provide Congress with a policy program for preventing the ceiling from being surpassed. That policy would become effective automatically unless modified or disapproved by the Congress.

We understand that an amendment is being prepared by the bill's sponsor that would specify that the President's policy may include utilization of the powers already available under Section 232 of the Trade Expansion Act, but that as amended the bill would not grant any new authority to take action. Section 232 of the Trade Expansion Act authorizes the President to "take such action . . . as he deems necessary to adjust the imports" of any article which "is imported into the United States in such quantities or under such circumstances as to threaten or impair the national security."

We share the concerns of Senator Bentsen and other members of this Committee about our Nation's energy situation. As you know, the Department of Energy recently provided the President with a comprehensive report on "Energy Security", and last month the President provided Congress with his program for dealing with the situation. One of the basic conclusions of the DOE report is that in the mid-1990's and beyond, we may face a substantial threat to our economy and to our national security if the U.S.

and other countries become overly reliant on oil imports, particularly from sources potentially subject to supply disruptions.

The proposed bill establishes a very important objective, namely to monitor factors which affect our energy security and to take action to enhance our energy security if threats become particularly severe. This objective, as I have described it, is a goal with which we can basically agree. Indeed, the President has directed the Secretary of Energy to provide him with "periodic assessments of energy security risks" and has stated that it "may be necessary to consider a variety of options for encouraging exploration and production if our U.S. [oil] industry continues to be diminished and national security risks increase."

As of the time of this statement being drafted, the proposed amendment to S. 694 has not been made available to the Department. I am sure you will appreciate that there are limitations on our ability to address in full the issues raised by a bill which we have not seen in its entirety. Nevertheless, we have several important questions about the current draft of the bill together with the proposed amendment:

1. Is the degree of oil import dependence by itself an adequate measure of energy security?

2. Should there be a trigger level requiring government action? And as a corollary, are our projections sufficiently accurate to serve as such a trigger?

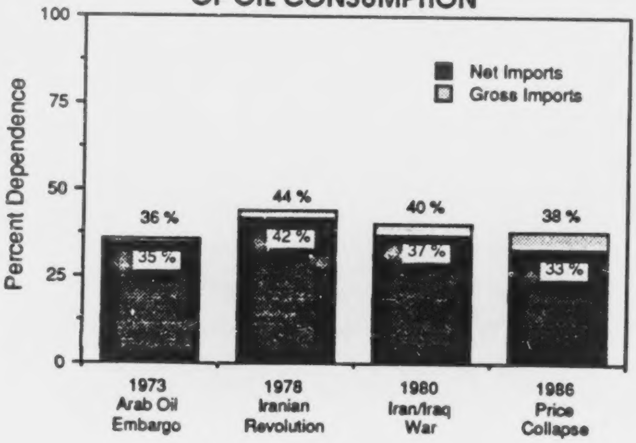
3. Would the requirement that the President's action be taken exclusively under a certain specified existing authority unduly limit the President's flexibility to respond appropriately to energy security threats?

Historical Perspective

In addressing these questions, it is useful to review some of the recent history of energy markets. I think that we have learned many lessons from previous energy problems, and I think that it is vitally important that we make use of our experience as we prepare for the possible problems ahead of us.

Chart 1 shows the degree of U.S. import dependence during previous oil market disturbances in 1973/74, in 1978/79 and in 1980. It is noteworthy that in none of these situations were U.S. oil imports anywhere near 50 percent of consumption. In 1973, net imports represented only about 35 percent of consumption, and during the Iranian Revolution, our degree of import dependence was about 42 percent. Interestingly, when the Iran/Iraq war broke out in the Autumn of 1980, our net import dependence of 37 percent was significantly greater than it had been in 1973, yet the supply disruption resulting from the war had little effect on the market. The level of U.S. oil import dependence in 1986 was about the same as in 1973, yet oil prices plummeted in 1986, whereas they increased rapidly in 1973/74.

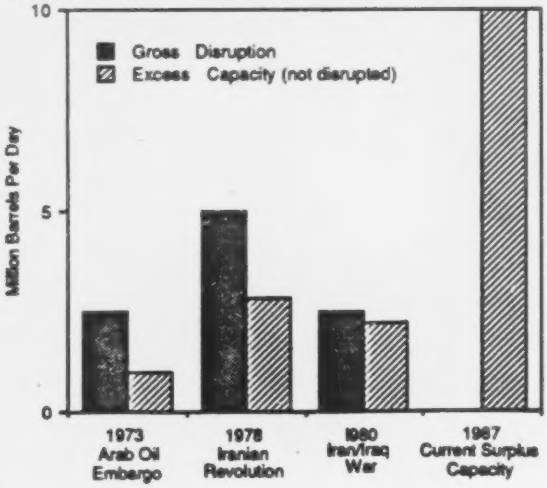
CHART 1
U.S. OIL IMPORTS AS A PERCENT
OF OIL CONSUMPTION



This experience implies that the degree of U.S. import dependence does not, by itself, provide an adequate measure of our energy security. We think that there are some other factors which are equally important. For example, the level of spare oil production capacity worldwide can have a large influence on the oil market in the event of a supply disruption. By spare production capacity, I mean production which is shut-in because of market circumstances or OPEC production restraint and which can be brought on stream quickly if circumstances change. As shown in Chart 2, spare oil production capacity worldwide was about 1 million barrels per day in 1973 and 2.8 million barrels per day in 1978. The supply disruptions which occurred in those years far exceeded the level of spare capacity, resulting in large oil price increases. Spare capacity in 1980 was almost as large as the supply disruption which resulted from the onset of the Iran/Iraq war, and the oil market was relatively unaffected by that disruption. Currently, spare oil production capacity is about 10 million barrels per day, of which about two-thirds is in the Persian Gulf region. Only a catastrophic supply disruption could exceed or eliminate this spare capacity today.

Chart 2

FREE WORLD EXCESS PRODUCTION CAPACITY COMPARED TO HISTORICAL DISRUPTIONS



Another important factor to consider is the level of stocks available during previous supply disruptions. It can be seen in Chart 3 that in 1973 and 1978, total stocks available for use in response to oil supply disruptions were relatively small. In 1980, however, company-owned stocks were at unusually high levels. These stocks made a major contribution in limiting the oil price increase resulting from the onset of the Iran/Iraq war. Since 1980, company-owned stocks have returned to lower levels, but government-owned and -controlled stocks have grown very significantly to over 800 million barrels.

Chart 3
OECD OIL STOCKS

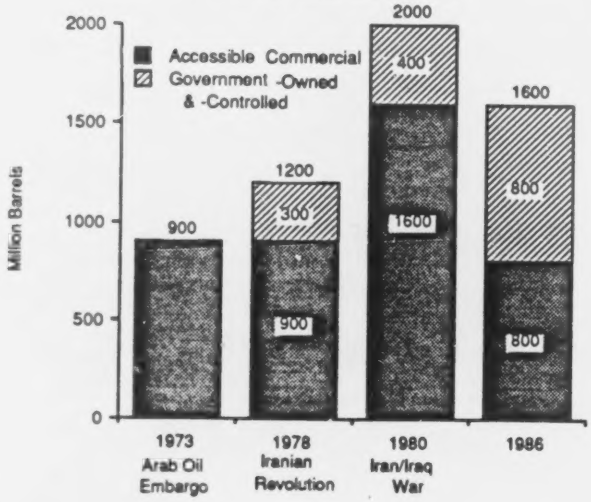
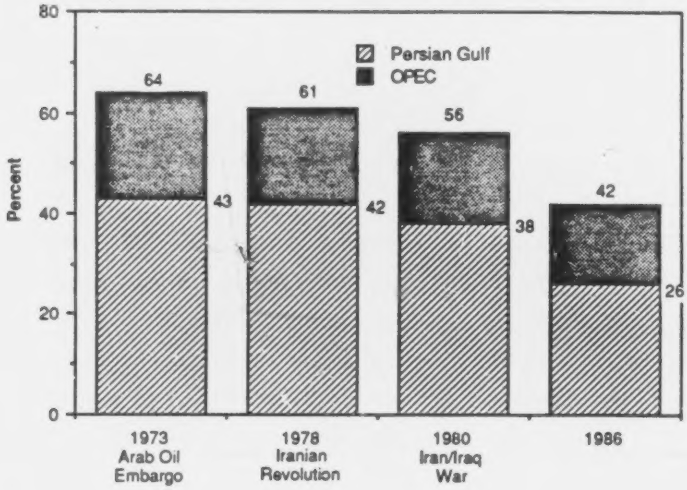


Chart 4 shows the level of Free World dependence on Persian Gulf and on total OPEC supplies during previous oil supply disruptions. The world's dependence on these sources is a function of the level of imports into Europe, Japan and non-OPEC Less Developed Countries as well as into the U.S. It can be seen that the supply disruptions that resulted in the largest impact on the market occurred during periods when Persian Gulf and other OPEC countries accounted for a large share of the market. By 1980, the market share of these suppliers was beginning to decline, and the supply disruption that occurred then had only a minimal effect on the market. Persian Gulf and other OPEC suppliers account for an even smaller share of the world market today.

Chart 4
OPEC SHARE OF FREE WORLD OIL PRODUCTION



I would also point out that there are other factors which can affect our energy security. The political and military situation in the Middle East is an extremely important factor in the security equation, but it is difficult to quantify. Similarly, perceptions about fundamental oil market trends have historically played a major role in determining the market response to oil supply disruptions, but again these perceptions are not easily quantified. In addition, oil's importance in the economy, the availability of alternatives to oil, and the flexibility of global oil supply systems all have an important bearing on energy vulnerability.

Specific Concerns about S. 694

The complexity of the various factors affecting our energy security, as shown in the preceding charts, leads me to our first specific concern about S. 694. We seriously question whether the 50 percent import dependence factor is the critical measure of the Nation's energy security. As I have already shown, we have experienced substantial problems at import levels well below 50 percent. Furthermore, there are several other factors which are equally important to our energy security as is our degree of import dependence. Depending on these other factors, the Nation could be relatively secure with imports above 50 percent of consumption, or conversely, could be severely threatened at import levels below 50 percent.

Secondly, we are concerned about the bill's requirement that the President take action on the basis of a "national oil security projection," which would contain "a forecast of domestic oil and NGL demand and production, and imports of crude and oil product for the subsequent three years." We like to think that our ability to make oil market projections has improved in recent years. Frankly, the record of the U.S. Government as well as the majority of oil industry forecasters and other market analysts has not been very good. There certainly is plenty of room for improvement. Unfortunately, though, I don't think we have yet or ever will be able to make projections with very much confidence. The oil market can be very volatile and can be affected by unpredictable events. For that reason, most oil market analysts have moved away from making single-path forecasts and have started to make projections based on a wide range of plausible assumptions.

In our "Energy Security" report, for example, we examined two principal scenarios, a lower- and a higher-price case, and many variations from these basic cases. Depending on whether the oil market follows a path more like the lower-price case or closer to the higher-price case, U.S. net imports may increase to 50 percent of consumption by 1992 or may not reach that level until after 1995. Of course, the market may follow a path outside the range of our two scenarios, or may fluctuate wildly between the two paths. It is difficult to see how alternative assumptions and market uncertainties could be adequately taken into account in the type of forecast envisioned by this legislation. It does not appear wise, based upon such a forecast, to require the adoption of specific measures designed to adjust imports in subsequent years.

Our greatest concern about the bill is its automatic nature. Regardless of the costs involved, the President would be required to propose a policy for limiting U.S. oil imports to less than 50 percent of consumption. In some cases, measures to reduce U.S. imports could have large economic and other costs which would far outweigh any potential energy security benefits. For example, our analysis shows that if imports were to approach 55 percent of consumption in the mid-1990's, the equivalent of a $5 per barrel import fee would be required to reduce imports to 50 percent. This would cost the economy about $14 billion per year (in 1987 dollars). Because of concerns about the economy, industrial competitiveness, trade, the budget, and foreign policy, as well as energy, the President should not be placed in a regulatory straitjacket, giving him little flexibility to take the most appropriate action to further the Nation's overall needs.

A final specific point about the proposed bill is its provision of authority to the President to take action to limit U.S. oil imports. We had some significant legal questions about the apparently open-ended authorities set out in the original draft of this legislation, and about the adequacy of the standards to govern the exercise of those authorities. I now understand that a technical amendment is being prepared which may alleviate these problems by limiting the President's authorities under this bill to those already available to him under Section 232 of the Trade Expansion Act. Until the actual language of the amendment is available, we will have to reserve judgment as to whether these legal issues have been eliminated.

The proposed amendment raises other questions, however. Based on what we have heard about the proposed amendment, on our reading of the Trade Expansion Act, and on our understanding of a couple of previous court decisions, it appears that the bill may only authorize measures which directly adjust imports. Although our examination of this issue so far is quite preliminary, we are concerned that the scope for the President to take action under this bill, as amended, might be limited to the imposition of import tariffs, import quotas or similar measures. As demonstrated in our "Energy Security" report, such measures can impose economic costs far in excess of any energy security benefits. Depending on the circumstances of any specific energy security threat arising in the future, the President may require the flexibility to seek new authorities to respond in a manner appropriate to the threat.

Concluding Remarks

To sum up, we certainly share the significant concerns raised by Senator Bentsen's bill. We agree that we must continue to monitor our energy situation and we must be prepared to respond to threats to our energy security. In fact, we think that the Administration's current energy policies, as announced by the President last month, already achieve most of the goals of this legislation. The Department of Energy is carrying out the President's instructions to provide him with assessments of our energy security risks.

Our current monitoring efforts focus on the following main areas:

1. Worldwide dependence on oil imports from potentially insecure sources.

2. Availability of surplus oil production capacity worldwide.

3. Availability of oil stocks for use in an emergency.

4. The state of our domestic oil industry.

5. Energy and oil demand trends, which are largely a function of economic performance, energy efficiency gains and development of alternative energy sources, including coal, natural gas, nuclear and renewable energy sources.

The Nation currently is well prepared for an oil supply interruption, but because of projected higher oil imports in the future, the President has requested a higher fill rate for the Strategic Petroleum Reserve, provided that budget offsets can be identified. The President also has identified a number of actions that need to be taken, including comprehensive decontrol of natural gas markets, repeal of the Windfall Profit Tax, two technical changes to the treatment of the depletion allowance for independent oil producers, and opening up portions of the Outer Continental Shelf and the coastal plain of the Arctic National Wildlife Refuge to environmentally-sound oil and gas activities. The President has stated that he will consider further actions as warranted if our U.S. industry continues to be diminished and national security risks increase.

The Administration opposes S. 694 because the legislated import ceiling and mandatory Presidential action to meet the ceiling do not provide the flexibility needed to craft appropriate domestic and international policies to promote energy security, and could result in unwarranted economic costs.

Before I leave, I would like to share with you some of my experiences with a previous attempt to set quantitative targets for oil imports. Eight years ago, almost to the day, the Heads of State of the seven largest democratic industrialized countries met in Tokyo for their annual Economic Summit meeting. One of the principal results of that meeting was the establishment of oil import quota targets for each of the countries. At first glance, it appeared that these targets would encourage the countries to take effective action to reduce their imports, but in the end, it turned out that the targets served more as a substitute for action. Indeed, while countries were agreeing to oil import goals, oil prices continued their upward spiral. Monitoring countries' adherence to the targets proved to be a troublesome problem as well.

By the Fall of 1980, oil companies had increased their stock levels, and the trend of increasing dependence on OPEC had been reversed by the responses of consumers and non-OPEC producers to higher oil prices. The availability of stocks and the changes in the fundamental market trends were the key factors in moderating the impact of the Iran/Iraq war, which began in September, 1980. Oil import targets played no role. Fortunately, the actions of producers and consumers in response to higher prices and actions by governments to deregulate energy markets and increase strategic stocks, led to a period of relative security in energy markets in the early- to mid-1980's. Our current goal is to provide a proper environment for energy markets to continue to operate efficiently and to supplement the market as necessary through such actions as continuing to build strategic stockpiles.

Mr. Chairman, we particularly share your view that all countries must participate in the burden of enhancing our energy security. In this connection, I am pleased to note that President Reagan intends, at the Economic Summit meeting this weekend, to encourage the other major oil-importing countries to continue or increase their efforts to improve their emergency stock levels. We must recognize that, while it is useful to look at the U.S. energy situation, we must always focus our attention on international energy developments. Energy markets, and the oil market in particular, are highly integrated, so that no nation can insulate itself from the world market. Ultimately, dependence on insecure oil supplies depends on all nations' import levels, and the world's capability to respond to oil supply disruptions depends on all nations' emergency preparedness efforts.

That concludes my statement, Mr. Chairman, and I will be glad to attempt to answer any questions you or other Members of the Subcommittee may have.

Senator **Metzenbaum**. That's the reason you oppose S. 694.

Before asking you some questions, Senator Bradley, do you have an opening statement?

Senator **Bradley**. Mr. Chairman, I don't have an opening statement, but I would like to compliment you for holding these hearings.

Senator **Metzenbaum**. Thank you.

Senator **Bradley**. I think it is terribly important that we focus on this aspect of the trade bill. I think this amendment moved through the Finance Committee, and we didn't really have the time to fully air all the issues.

I think the administration's testimony, as I have heard it, has been very helpful. And I think that you have very successfully pointed out the kind of arbitrary nature of a 50 percent threshold. And I hope that in the course of today's hearing, it will also become apparent that vulnerability to oil supply disruption is different than simply the level of imports and that what is the real problem for our economy is the price increase that flows from a disruption. And if we did not import one barrel of oil but still had a disruption in the supply of oil, our country would be the most adversely affected because we are the largest consumer of oil. So, I think that this proposal is misconceived in a variety of ways.

And frankly, as a member of the Finance Committee, I would just as soon not cede the right to raise taxes to the President of the United States without it passing the Finance Committee first. I don't think we want to wake up one day and find that the oil industry's tax rates have dropped by 10 percent which under this provision as it is now drawn could conceivably happen.

So, Mr. Chairman, I salute you for holding this hearing, and I think it will be an issue that we will return to on the floor and have a chance to rectify.

Senator **Metzenbaum**. Very good. We will be working together.

Senator Evans, did you have an opening statement? Excuse me. Senator Nickles, did you have an opening statement? Senator Evans.

Senator **Evans**. No, I will pass.

Senator **Metzenbaum**. Senator Nickles.

Senator **Nickles**. Mr. Chairman, I do have a lengthy statement, and I ask your consent to insert it in the record. I won't read it.

STATEMENT OF HON. DON NICKLES, A U.S. SENATOR FROM THE STATE OF OKLAHOMA

Senator **Nickles**. I also have statements from several energy experts offering somewhat of a different taint than what I think the majority of our witnesses will be testifying today.

I would have preferred for this hearing to have been balanced, with both sides of this issue being presented. I am not sure that both sides are being presented. And I think that leaves it a little incomplete. I think there are two sides of it. I wish we had adequate time to present both sides. I do have several position papers and statements and editorials I wish to include in the record as well.[1]

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[1] See the appendix to this document.

Senator **Metzenbaum**. Without objection.

Senator **Nickles**. I do look forward to hearing what some of our witnesses have to say and their positions on the issue, but I'd like to make just a general comment.

The President made a comment last week or maybe just a few days ago concerning the Middle East situation, the fact the free world is quite dependent on Middle East oil. That is a fact. This dependency on foreign oil is also a fact, and it is also growing, and it is growing very rapidly. The Senator from Ohio is on the Energy Committee, as are the Senator from New Mexico and the Senator from New Jersey. We will see very soon that this country will be importing the majority of its oil.

Senator **Metzenbaum**. Would the individual who had that chart be good enough to put it back up again because, Senator Nickles, Mr. Martin brought some charts with him that I think are relevant to this question, and I don't mean to interrupt you. But he did have one—I thought that the amount of oil we are importing had been increasing. But as you can see from the chart that as a percentage of consumption, it has actually been going down.

Senator **Nickles**. Well, I think that is incorrect. Let me make just a couple comments.

Mr. **Martin**. Senator, let me correct what I said at the time. It is going up from where we were in 1985, and it had been going down till 1985, when it reached a level of 4 million and a half barrels a day. Now it is shooting up. The point of my chart was to show that the relative level of oil imports has been comparable through many disruptions, and there is more behind what is happening in the oil market than just the level of oil imports implies.

Senator **Nickles**. Let me further address your answer because your statement leads the American public to a very false sense of security.

If you look at the first statement made in 1973, we are importing about a third of our oil, 35 percent. Mr. Chairman, we are importing a lot more than that today. We are at that 38 percent figure. And the gross import figures, the figure that really counts, is what we have to buy. We had a shortage in 1973, and you might well remember that it shut down this country and set off for American consumers quite a spiral in the price that they paid for energy, not to mention the dislocation because of the gas lines, et cetera.

We had the same thing happen in 1979. And if you look again at Mr. Martin's chart, we were importing in 1979 about 44 percent. We are not quite up to 44 percent. But any expert that you have who comes before this panel will agree, I think, without any doubt that we will be well through 44 percent probably in the next couple of years.

And if you remember, in 1979 we were quite vulnerable. We had massive layoffs; we had massive shut-downs; we had massive curtailments. And Mr. Chairman, you should also know that back in 1979, 1980, 1981 and 1982 we had, because of the price increases, a massive increase in domestic activity. We had 4,000 oil and gas rigs running in the country in 1981. Do you know how many we have today, Mr. Chairman? We have 770. So, we don't have any domestic activity to help give us a little domestic security.

And that chart does not show what it would show or project for 1987, 1988 and 1989 or 1990, 1991, 1992, 1994, 1995. But instead of 38 percent by the year 1990, I think a good assumption will be is that you will be crossing the 50 percent threshold, and by the year 1995, which is only eight years from now, you will probably be crossing the 60 percent threshold. So, you are going to be importing at figures much, much higher, considerably higher, than what we were in either the 1979 curtailment or the 1973 curtailment. And that means that New Jersey, Ohio, this entire country is very, very vulnerable to some very disruptable supplies. That is the point, I think, that is so important to make.

We may not do anything in Congress to reverse that fact, but people should be aware that it is coming. And whether or not their curtailment will happen or not I don't know. I hope it does not. But we are becoming very, very vulnerable to that event. And again, I think if you showed the out years, you would see that figure escalating. American consumers should beware because if the curtailments do happen, they will be yelling at every member in this body. They will be yelling at whoever the President is. And it won't be Ronald Reagan. It will be his successor. But they will be yelling at him, why didn't you do something. Why didn't you let us know that this was happening? Why did we become so vulnerable on these unreliable sources?

[The prepared statement of Senator Nickles follows:]

STATEMENT OF SENATOR DON NICKLES
SUBCOMMITTEE ON ENERGY REGULATION AND CONSERVATION
HEARING ON S. 694

JUNE 2, 1987

Mr. Chairman:

I appreciate your holding an oversight hearing of the Subcommittee on Energy Regulation and Conservation on S. 694, the Energy Security Act of 1987. As you undoubtedly recognize, the issue of import security is an extremely important matter that potentially affects all Americans.

At a recent hearing before the full Senate Energy and Natural Resources Committee less than two weeks ago, the Deputy Secretary of Energy discussed the DOE's Report on Energy Security. It is good that you have called him back again, Mr. Chairman, to specifically address the importance of S. 694 in the context of the Energy Security study's projections that the U.S. level of foreign oil dependency could rise to 45% by 1990 and 57% by 1995. As I again brought to Mr. Martin's attention two weeks ago, I expect that the United States will be 50% dependent on imports by 1990 and 60% by 1995.

Clearly, if either of these projections are realized, the United States will be seriously vulnerable to a major oil supply interruption. As you recall, just prior to the 1973 Arab Oil Embargo, the United States was only dependent on foreign oil for one-third of its net petroleum needs. The recent tragic attack on the U.S.S. Stark brings into high relief the dangers of a national policy that ignores our growing dependency on oil supplies from the Middle East. In 1986 we imported more than twice as much oil from Arab OPEC countries as we did in 1985. Unfortunately, it will not help solve our import dependency problems by increasing U.S. imports only from "friendly" and "stable" trading partners such as Great Britain, Canada, Mexico and Venezuela. Oil is a world-wide commodity. If the Persian Gulf closes, it would not matter so much what the percentage of Persian Gulf oil we were importing as much as it matters to what extent the U.S. is dependent on all sources of foreign oil. If there is a closing of the Persian Gulf, other nations will be forced to buy their oil from these same "stable" suppliers, putting pressure on the price and availability of world crude oil.

For example, the U.S. had been importing little more than half a million barrels a day from Iran prior to the 1978 Revolution--only 3% of our 1978 petroleum needs. However, other countries were importing large volumes from Iran--an additional 4 million barrels a day--and they went onto the remaining world market when those Iranian supplies disappeared. And, as the Chairman will recall, there were costly petroleum supply disruptions in Ohio as well as Oklahoma during 1979. These disruptions were not due to our dependency on Iranian oil--but to our 1978 dependency on foreign oil for almost 43 percent of our petroleum needs. This past winter, Mr. Chairman, we approached 40 percent net import dependency. Although our net import dependency is down to about 30% (35% gross imports), our dependency will again rise as soon as the summer driving cycle increases domestic petroleum use.

The fact that oil is a world-wide commodity is one of the reasons it is in the vital interests of the United States to keep oil exports flowing out of the Persian Gulf--despite the fact that the United States last year depended on Persian Gulf oil for only 5.6 percent of its petroleum needs.

If I could review for the benefit of my colleagues and our guests a fundamental tenant of cartel economics. I quote from Browning and Browning's Microeconomic Theory and Applications, "The biggest threat to a cartel is increased production by non-members." The DOE's Energy Security Report states that there is approximately 10 million barrels per day of excess production capacity, virtually all of it in OPEC countries. OPEC has just demonstrated its abiliity to drive world oil prices to below $10 a barrel--and reduce U.S. oil production by almost 10%. Thus, the question facing Congress is not whether action should be taken, but what action should be taken to promote domestic production and reduce foreign imports.

The bill S. 694 is a major initiative to focus debate on this important issue. Senator Bentsen has informed me that he has directed the Finance Committee staff to draft an amendment to his bill that will reflect the sense of the Finance Committee to conform the bill as an amendment to section 232 of the Trade Expansion Act. The distinguished Chairman of the Finance Committee further informs me that, with this amendment, S. 694 will in no way expand current authorities already given the President by Congress under section 232 of the Trade Expansion Act.

Mr. Chairman, I ask unanimous consent that testimony from outside witnesses, who could provide alternative views, be allowed for the record, and that they be given two additional weeks to submit their views on S. 694 for this hearing record. In addition, Mr. Chairman, I request that, on behalf of Senator Domenici and myself, that we be permitted to insert into this hearing record selected articles and editorials regarding the seriousness of our import dependency and the need for the types of actions that are embodied in S. 694.

Senator METZENBAUM. I want to thank my colleague from Oklahoma.

With respect to the matter of having spokespersons for your point of view, we did indicate a willingness to have such a panel, but apparently there was an unavailability of persons who were willing to be expert witnesses at this point because we certainly were happy to accommodate if we could.

With respect to some of your comments, let me say that in 1973 there was substantial evidence that the oil industry actually artificially created much of the shortage that occurred at that time, that the ships were out at sea waiting. Instead of letting them come in, they just were letting the price go up another dollar, $2 or $3.

Senator NICKLES. Mr. Chairman, I disagree with that statement.

Senator METZENBAUM. I know, but just let me finish because I didn't interrupt you.

And then let me point out to you that the U.S. Energy Information Administration has prepared their own projections which indicate that by 1990 the percentage of oil imported, assuming a lower price case—and they have a high price case as well. At the higher price case by 1995 you get up to 50 percent of imports. By 1990 you do not get that high. And when you have the lower price case, you have substantially less than 50 percent. It is a preparation of the United States Energy Information Administration.

Senator METZENBAUM. But the level of imports, I might also point out, does not equate to vulnerability. Source is the key. Supplies from Canada are not vulnerable. And we certainly are in position of import from Canada. We are in a position of import from Mexico. And I would hope that these hearings are not here to beat up on the American oil industry but rather to indicate our concern for the health of the American oil industry while at the same time being concerned about the health of the entire free enterprise system in this country.

Now, I note that my colleague from New Mexico—I think he has got some other figures he would like to put in the record I would guess. And if that is the case, I will be happy to have him put it in. I happen to see you had a chart there in your hand.

Senator DOMENICI. No. I tend to agree with my friend from Oklahoma, and I believe the study that Secretary Martin has produced is patently in error from the first day it was produced with reference to projections. And I think he would admit that. They had to stop at a point in time. They did, and if you just look six months later and see what they projected, they were substantially off in terms of dependence. But this is the official chart which indicates the changes since 1973 all the way through the second two month average in 1987 from the Saudis, the total OPEC, Canadian, Mexican and all others. And I would just ask that it be made a part of the record. It shows a significant increase over the low in all of those cases, but I don't care to elaborate. I did that before my friend from Oklahoma and the Senator from New Jersey arrived. And I thank you for that time.

Senator METZENBAUM. Thank you very much. And without objection, it will be included.

[The information follows:]

MATERIAL INSERTED BY SENATOR DOMENICI

1986 Data Confirms Growing Oil Import Dependence

The attached Department of Energy table shows that U.S. petroleum imports did decline from the peak levels in the late 1970s through 1985. However, that trend was reversed abruptly in 1986 with the collapse in oil prices. From 1985 to 1986, total U.S. petroleum imports jumped by 1 million barrels per day, or 20 percent.

Almost this entire increase in petroleum imports came from countries in the Middle East. U.S. petroleum imports from Arab OPEC countries almost tripled. Imports from Saudi Arabia jumped almost five-fold. Imports from our immediate neighbors, Mexico and Canada, either stabilized or declined. Preliminary data for 1987 shows this trend is continuing.

Table 3.3a Crude Oil and Petroleum Product Imports
(Thousand Barrels per Day)

	Imports from OPEC Sources[a]										
	Algeria	Libya	Saudi Arabia	United Arab Emirates	Indonesia	Iran	Nigeria	Venezuela	Other OPEC[b]	Total OPEC	Total Arab OPEC[c]
1973 Average	136	164	486	71	213	223	459	1,135	106	2,993	915
1974 Average	190	4	461	74	300	469	713	979	88	3,280	752
1975 Average	282	232	715	117	390	280	762	702	122	3,601	1,383
1976 Average	432	453	1,230	254	539	298	1,025	700	134	5,066	2,424
1977 Average	559	723	1,380	335	541	535	1,143	690	287	6,193	3,185
1978 Average	649	654	1,144	385	573	555	919	645	220	5,751	2,963
1979 Average	636	658	1,356	281	420	304	1,080	690	212	5,637	3,056
1980 Average	488	554	1,261	172	348	8	857	481	130	4,300	2,551
1981 Average	311	319	1,129	81	366	0	620	406	90	3,323	1,848
1982 Average	170	26	552	92	248	35	514	412	97	2,146	854
1983 Average	240	0	337	30	336	48	302	422	144	1,862	632
1984 Average	323	1	325	117	343	10	216	548	166	2,049	819
1985 January	112	0	106	60	296	0	262	481	89	1,405	305
February	174	0	106	0	232	0	119	524	64	1,220	307
March	247	0	85	52	283	0	164	588	84	1,505	385
April	286	8	201	70	313	0	280	684	86	1,928	575
May	255	0	41	128	265	0	381	552	354	1,976	635
June	178	5	26	81	438	0	357	453	152	1,690	378
July	125	10	44	13	390	42	381	573	248	1,825	286
August	135	0	46	17	377	100	207	568	289	1,740	280
September	147	0	27	57	206	43	285	808	230	1,802	302
October	177	20	251	17	277	41	305	676	196	1,958	520
November	164	11	430	34	356	99	325	727	294	2,440	752
December	244	0	642	15	324	0	432	625	149	2,430	925
Average	**187**	**4**	**168**	**45**	**314**	**27**	**293**	**605**	**187**	**1,830**	**472**
1986 January	183	0	664	11	285	0	241	629	216	2,229	944
February	161	0	600	0	277	(s)	199	464	64	1,766	788
March	260	0	482	0	163	0	328	762	117	2,112	798
April	275	0	722	0	282	0	311	802	139	2,532	1,061
May	190	0	564	32	326	0	383	874	266	2,635	944
June	319	0	704	83	353	0	362	755	439	3,014	1,418
July	296	0	713	59	519	66	542	720	330	3,244	1,318
August	363	0	653	37	274	93	593	892	366	3,271	1,300
September	231	0	796	62	341	31	646	848	356	3,310	1,360
October	305	0	685	147	344	0	530	834	344	3,190	1,372
November	311	0	828	34	307	0	444	846	214	2,984	1,255
December	290	0	763	30	232	0	439	819	290	2,862	1,215
Average	**266**	**0**	**681**	**42**	**309**	**16**	**420**	**772**	**263**	**2,768**	**1,149**
1987 January	158	0	873	15	285	0	313	866	215	2,726	1,187
February	315	0	772	54	420	30	240	764	155	2,749	1,226
2-Mo. Average	**233**	**0**	**825**	**33**	**349**	**14**	**279**	**818**	**187**	**2,737**	**1,206**
1986 2-Mo. Average	**173**	**0**	**634**	**6**	**281**	**0**	**221**	**551**	**144**	**2,009**	**870**
1985 2-Mo. Average	**141**	**0**	**107**	**31**	**265**	**0**	**194**	**501**	**77**	**1,317**	**306**

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[a] Excludes petroleum imported into the United States indirectly from OPEC countries, primarily from Caribbean and West European areas, as refined petroleum products that were refined from crude oil produced in OPEC countries.

[b] Includes Ecuador, Gabon, Iraq, Kuwait, and Qatar.

[c] Includes Algeria, Libya, Saudi Arabia, United Arab Emirates, Iraq, Kuwait, and Qatar.

Footnotes continued on following page.

Table 3.3b Crude Oil and Petroleum Product Imports (continued)
(Thousand Barrels per Day)

	Imports from Non-OPEC Sources[a]										
	Bahamas	Canada	Mexico	Netherlands Antilles	Trinidad and Tobago	United Kingdom	Puerto Rico	Virgin Islands	Other Non-OPEC	Total Non-OPEC	Total Imports
1973 Average	174	1,325	16	585	255	15	99	329	465	3,263	6,256
1974 Average	164	1,070	8	511	251	8	90	391	340	2,832	6,112
1975 Average	152	846	71	332	242	14	90	406	300	2,454	6,056
1976 Average	118	599	87	275	274	31	88	422	353	2,247	7,313
1977 Average	171	517	179	211	280	126	106	466	560	2,614	8,807
1978 Average	160	467	318	229	253	180	94	429	484	2,613	8,363
1979 Average	147	538	439	231	190	202	92	431	548	2,819	8,456
1980 Average	78	455	533	225	176	176	88	388	491	2,609	6,909
1981 Average	74	447	522	197	133	375	82	327	534	2,672	5,996
1982 Average	85	482	685	175	112	456	80	316	627	2,968	5,113
1983 Average	125	547	826	189	96	382	40	282	701	3,189	5,051
1984 Average	88	630	748	186	94	402	42	294	902	3,386	5,437
1985 January	92	616	767	132	113	345	32	235	678	3,010	4,415
February	37	730	652	52	119	151	50	213	689	2,693	3,913
March	36	909	923	49	115	133	29	235	739	3,168	4,673
April	4	890	950	18	107	213	42	205	959	3,388	5,316
May	74	823	929	28	126	419	37	252	1,112	3,800	5,776
June	24	720	726	30	92	481	23	271	872	3,240	4,929
July	38	610	814	36	133	324	14	236	918	3,124	4,950
August	11	664	859	18	121	336	28	241	699	2,978	4,718
September	47	783	852	40	129	303	26	173	815	3,169	4,970
October	35	825	745	5	99	352	21	260	821	3,163	5,121
November	22	766	887	30	100	376	26	325	1,143	3,676	6,116
December	54	902	676	44	96	273	12	314	1,029	3,400	5,831
Average	**40**	**770**	**816**	**40**	**113**	**310**	**28**	**247**	**873**	**3,237**	**5,067**
1986 January	66	826	680	58	108	348	21	326	724	3,157	5,386
February	15	688	571	11	85	218	20	309	939	2,855	4,622
March	13	741	616	27	79	178	25	186	661	2,526	4,638
April	5	775	693	13	111	188	23	209	762	2,779	4,838
May	30	775	727	38	130	365	27	237	1,052	3,381	6,016
June	24	735	879	17	167	568	30	233	1,135	3,788	6,602
July	36	754	819	25	131	352	29	237	1,156	3,540	6,784
August	35	793	738	12	133	583	7	214	1,289	3,804	7,075
September	12	786	615	17	162	437	23	291	1,324	3,667	6,977
October	35	846	670	26	112	170	21	215	930	3,027	6,217
November	33	951	567	51	129	428	21	179	992	3,350	6,335
December	52	803	741	7	142	366	12	290	1,193	3,607	6,468
Average	**30**	**790**	**694**	**25**	**124**	**351**	**22**	**243**	**1,013**	**3,293**	**6,061**
1987 January	54	777	669	29	99	419	33	327	1,053	3,461	6,186
February	54	762	689	30	111	235	24	296	900	3,100	* 5,849
2-Mo. Average	**54**	**770**	**678**	**30**	**105**	**332**	**29**	**312**	**980**	**3,289**	**6,026**
1986 2-Mo. Average	**42**	**760**	**628**	**36**	**97**	**286**	**20**	**318**	**826**	**3,014**	**5,023**
1985 2-Mo. Average	**66**	**670**	**712**	**94**	**116**	**253**	**40**	**225**	**683**	**2,860**	**4,177**

Footnotes continued.

[a] Includes petroleum imported into the United States indirectly from OPEC countries, primarily from Caribbean and West European areas, as refined petroleum products that were refined from crude oil produced in OPEC countries.

(s) = Less than 500 barrels per day.

Notes: • Geographic coverage is the 50 States and the District of Columbia. • Totals may not equal sum of components due to independent rounding. • Beginning in October 1977, Strategic Petroleum Reserve imports are included.

Sources: See end of section.

Annual values for crude oil and petroleum product imports from Total Non-OPEC sources for the years 1981 through 1985 were incorrect as published in the December 1986 *Monthly Energy Review*. Those values have been corrected in this issue.

Senator **Metzenbaum**. Now, Dr. Paul Freedenberg, we have not heard from you. You are the Assistant Secretary for Trade Administration, the Department of Commerce. And we are sort of beginning to run out of time. So, Dr. Freedenberg, we will look forward to you for the next five minutes.

STATEMENT OF DR. PAUL FREEDENBERG, ASSISTANT SECRETARY FOR TRADE ADMINISTRATION, DEPARTMENT OF COMMERCE

Dr. **Freedenberg**. Thank you, Mr. Chairman, members of the subcommittee.

I am pleased to appear before the subcommittee today to discuss S. 694, the Energy Security Act of 1987, regarding a comprehensive oil security policy.

Let me state at the outset that we share the concerns expressed by Members of the Congress regarding the problem of U.S. dependence on insecure sources of foreign oil. We remember the sharply escalating oil prices during the 1970s, the lines for gasoline, and the high levels of oil import dependence on OPEC.

The administration is committed to the principle that reliance on market forces combined with the maintenance of the Strategic Petroleum Reserve is the most effective means to promote U.S. energy security. Since 1981 the administration has dramatically increased the Strategic Petroleum Reserve to 520 million barrels and removed regulatory barriers to the market-based development of energy resources.

In addition to the domestic achievements, U.S. dependence on OPEC sources for oil imports has declined from 66 percent in 1979 to 46 percent last year while at the same time we have increased imports from Mexico and North Sea sources.

S. 694 specifically declares that U.S. energy security requires a national policy that would limit oil imports, both crude and refined petroleum products, to 50 percent of annual U.S. oil consumptions. In the event that projected oil imports exceed the annual ceiling, the President must submit to Congress an energy action plan designed to prevent foreign oil imports from actually exceeding the ceiling.

Mr. Chairman, I am concerned about the economic and national security problems posed by rising oil imports. But at the same time I think that S. 694 is not the most effective way to address the problem. The proposed amendment defines U.S. energy security in terms only of one indicator, the level of U.S. oil imports. However, as we have seen from Deputy Secretary Martin's testimony, reliance on foreign oil is not the only factor for determining energy vulnerability. Oil import dependence is an important indicator, but there are other factors which must be taken into account, including U.S. diversification of its oil import sources, free world dependence on OPEC, the level of world emergency oil stocks, and the level of surplus production capacity in the free world. In all of these factors, the outlook is favorable.

My second concern involves trade and related economic considerations. I recognize that an import fee could be used to keep imports from exceeding 50 percent of oil consumption. It would also help increase domestic oil and natural gas production and preserve jobs in the industry. However, there would be a high cost. The import fee would raise the cost of oil and its substitutes to the United States companies and reduce their competitiveness. This would also reduce U.S. economic growth and possibly stimulate inflation.

The Department of Energy Energy Security Review and other studies have found that an oil import fee is not a cost effective measure to lower oil imports.

Section 232 of the Trade Expansion Act of 1962 is the statute that gives the President authority to adjust imports in order to remove a national security threat. The Department of Commerce has responsibility for conducting investigations under this statute in consultation with other appropriate Federal agencies, and for making recommendations to the President. Section 232 investigations take into account a number of factors in addition to oil import penetration levels. We examine sources and reliability of imports, overall supply, diversification, and the adequacy of total available supplies during a national security crisis.

Senator **Metzenbaum**. Dr. Freedenberg, can you wind up please?

Dr. **Freedenberg**. Okay.

We have not self-initiated a 232 investigation due to the fact that the administration already had under way a major interagency review. And this study indicated that we do not currently face a national security threat.

The DOE study also indicated that there may be energy security problems in the 1990s if we do not take steps now to increase our domestic energy production. In this regard, the President has recommended a number of steps which we believe are the best means to enhance our energy security.

In short, the administration is already acting to promote energy security in the 1980s and beyond, and we at the Commerce Department will continue to track oil imports and work with our colleagues in the executive branch on a constructive energy policy.

Thank you very much.

[The prepared statement of Dr. Freedenberg follows:]

TESTIMONY OF THE HONORABLE PAUL FREEDENBERG

ASSISTANT SECRETARY FOR TRADE ADMINISTRATION

U.S. DEPARTMENT OF COMMERCE

BEFORE THE

SENATE SUBCOMMITTEE ON ENERGY REGULATION AND CONSERVATION

JUNE 2, 1987

Good Morning Mr. Chairman, Members of the Subcommittee

I am pleased to appear before this Subcommittee today to discuss S. 694, the Energy Security Act of 1987 regarding a comprehensive national oil security policy.

Let me state at the outset, that we share the concerns expressed by members of Congress regarding the problem of U.S. dependence on insecure sources of foreign oil. We remember the sharply escalating oil prices during the 1970's, the lines for gasoline, and the high levels of oil import dependence on OPEC.

The Administration is committed to the principle that reliance on market forces combined with the maintenance of the Strategic Petroleum Reserve (SPR) is the most effective means to promote U.S. energy security. Since 1981, the Administration has dramatically increased the Strategic Petroleum Reserve to 520 million barrels and removed regulatory barriers to the market-based development of energy resources. The President has decontrolled oil prices, has pushed for comprehensive deregulation of natural gas prices and elimination of the Windfall Profit Tax. The Administration is also recommending the leasing and development of Alaskan and Outer Continental Shelf resources to increase domestic energy production.

Our domestic achievements and initiatives tell only part of the story. Our partners in the International Energy Agency (IEA) have expanded their strategic oil stocks to 350 millions barrels, AND CONTINUE TO BUILD THEM BY MORE THAN 100,000 B/D.

FURTHER, WE HAVE MADE SUBSTANTIAL PROGRESS IN EXPANDING ENERGY TRADE WITH CANADA. AS A RESULT OF THE REAGAN/MULRONEY SUMMIT IN MARCH 1985, THE U.S. ELIMINATED EXPORT RESTRICTIONS ON CRUDE OIL PRODUCED IN THE LOWER 48 STATES FOR EXPORT TO CANADA. AT THE SAME TIME, CANADA HAS BECOME ONE OF OUR LARGEST FOREIGN SUPPLIERS OF CRUDE OIL AND REFINED PRODUCTS WITH SALES OF 790,000 BARRELS PER DAY IN 1986 AND IS OUR ONLY FOREIGN SUPPLIER OF NATURAL GAS. THESE INITIATIVES HAVE RESULTED IN TRANSPORTATION EFFICIENCIES AND INCREASED OUR MUTUAL ENERGY SECURITY.

THE ABOVE ACHIEVEMENTS DO NOT TELL THE ENTIRE STORY REGARDING ENERGY SECURITY. U.S. DEPENDENCE ON OPEC SOURCES FOR OIL IMPORTS HAS DECLINED FROM 66 PERCENT IN 1979 TO 46 PERCENT LAST YEAR. AT THE SAME TIME, IMPORTS FROM CANADA, MEXICO AND THE NORTH SEA HAVE CONTRIBUTED TO INCREASING SUPPLIES FROM NON-OPEC SOURCES FROM 33 TO 54 PERCENT. IN SHORT, THE U.S. HAS REDUCED DEPENDENCE ON OPEC AND THEREBY, SOMEWHAT IMPROVED ITS ENERGY SECURITY.

AT THIS JUNCTURE, I WOULD LIKE TO DISCUSS S. 694 IN TERMS OF ENERGY, TRADE, NATIONAL SECURITY AND RELATED CONCERNS. FOLLOWING THIS DISCUSSION, I PLAN TO ADDRESS THE ADDITIONAL MEASURES THAT THE ADMINISTRATION HAS PROPOSED WITH REGARD TO ENERGY SECURITY. S. 694 SPECIFICALLY DECLARES THAT U.S. ENERGY SECURITY REQUIRES A NATIONAL POLICY THAT WOULD LIMIT OIL IMPORTS (BOTH CRUDE AND

REFINED PETROLEUM PRODUCTS) TO 50 PERCENT OF ANNUAL U.S. OIL CONSUMPTION. IT REQUIRES THE PRESIDENT TO SUBMIT ANNUALLY TO THE CONGRESS A FORECAST OF OIL SUPPLY/DEMAND AND IMPORTS FOR THE THREE SUBSEQUENT YEARS. IN THE EVENT THAT PROJECTED OIL IMPORTS EXCEED THE ANNUAL CEILING, THE PRESIDENT MUST SUBMIT TO CONGRESS, WITHIN NINETY SESSION DAYS, AN ENERGY ACTION PLAN DESIGNED TO PREVENT FOREIGN OIL IMPORTS FROM ACTUALLY EXCEEDING THE CEILING.

THE ENERGY PLAN AS PROPOSED WOULD PROVIDE THE PRESIDENT WITH A WIDE ARRAY OF OPTIONS TO PREVENT OIL IMPORTS FROM EXCEEDING 50 PERCENT. THESE OPTIONS INCLUDE: A) UTILIZATION OF ALL POWERS CURRENTLY WITHIN THE LAW; B) ENERGY CONSERVATION ACTIONS; C) EXPANSION OF THE STRATEGIC PETROLEUM RESERVE; AND D) PRODUCTION INCENTIVES FOR DOMESTIC OIL AND NATURAL GAS INCLUDING TAX AND OTHER INCENTIVES FOR STRIPPER WELL PRODUCTION, OFFSHORE, FRONTIER, AND OTHER OIL PRODUCED WITH TERTIARY RECOVERY TECHNIQUES. THE CONGRESS WOULD HAVE NINETY SESSION DAYS TO DISAPPROVE OR MODIFY THE ENERGY PLAN BY JOINT RESOLUTION OR ELSE IT BECOMES EFFECTIVE. THE CONCLUSION WOULD BE THAT THE PRESIDENT, BY WHATEVER MEANS, WOULD BE REQUIRED TO KEEP OIL IMPORTS BELOW 50 PERCENT OF CONSUMPTION.

MR. CHAIRMAN, I AM CONCERNED ABOUT THE ECONOMIC AND NATIONAL SECURITY PROBLEMS POSED BY RISING OIL IMPORTS. AT THE SAME TIME, I THINK THAT S. 694 IS NOT THE MOST EFFECTIVE WAY TO ADDRESS THE PROBLEM. MY REASONS ARE AS FOLLOWS:

THE PROPOSED AMENDMENT DEFINES U.S. ENERGY SECURITY IN TERMS OF ONLY ONE INDICATOR -- THE LEVEL OF U.S. OIL IMPORTS. HOWEVER, RELIANCE ON FOREIGN OIL IS NOT THE ONLY FACTOR FOR DETERMINING ENERGY VULNERABILITY. OIL IMPORT DEPENDENCE IS AN IMPORTANT INDICATOR, BUT THERE ARE OTHERS WHICH MUST BE TAKEN INTO ACCOUNT:

(1) THE UNITED STATES HAS DIVERSIFIED ITS OIL IMPORT SOURCES - I NOTED EARLIER THAT SINCE 1979, THE U.S. HAS REDUCED ITS DEPENDENCE UPON OPEC AND HAS PURCHASED MORE OIL FROM CANADA, MEXICO AND THE NORTH SEA PRODUCERS. IN POINT OF FACT, WE HAVE REDUCED OUR DEPENDENCE ON ARAB OPEC SOURCES FROM 36 PERCENT OF ALL OIL IMPORTS IN 1979 TO 19 PERCENT IN 1986.

(2) FREE WORLD DEPENDENCE ON OPEC HAS DECLINED - OPEC'S TOTAL OIL PRODUCTION (INCLUDES NATURAL GAS LIQUIDS) HAS DROPPED FROM MORE THAN 31 MILLION BARRELS PER DAY (MMB/D) TO ABOUT 19.7 MMB/D.IN 1986. BY CONTRAST, NON-OPEC OIL OUTPUT HAS INCREASED FROM ABOUT 20.6 MMB/D TO 26.5 MMB/D WITH THE BULK OF THE INCREASE OCCURRING IN MEXICO AND THE NORTH SEA.

(3) WORLD EMERGENCY OIL STOCKS HAVE INCREASED SUBSTANTIALLY - SINCE 1980, THE STRATEGIC PETROLEUM RESERVE HAS BEEN INCREASED FIVEFOLD TO 520 MILLION BARRELS. AT THE SAME TIME, SEVERAL OECD COUNTRIES HAVE EXPANDED GOVERNMENT-OWNED STOCKPILES TO ABOUT 350 MILLION BARRELS.

THESE STRATEGIC STOCKS REPRESENT A MAJOR DETERRENT AGAINST POTENTIAL DISRUPTIONS.

(4) SURPLUS PRODUCTION CAPACITY EXISTS IN THE FREE WORLD - THE DEPARTMENT OF ENERGY ESTIMATES THAT THERE ARE ABOUT 10 MMB/D OF SURPLUS OIL PRODUCTION CAPACITY OUTSIDE OF THE CENTRALLY PLANNED ECONOMICS. APPROXIMATELY ONE-THIRD OF THIS CAPACITY IS LOCATED OUTSIDE OF THE PERSIAN GULF.

IN ADDITION, OUR VULNERABILITY TO AN OIL SUPPLY DISRUPTION IS AFFECTED BY THE FLEXIBILITY AND SECURITY OF OIL SECURITY SYSTEMS, THE AVAILABILITY OF ALTERNATE FUELS, AND THE INTENSITY OF OIL USE IN THE ECONOMY.

THE ABOVE FACTORS NOTWITHSTANDING, IT IS IMPORTANT TO NOTE THAT THE U.S. DOES NOT, AT THE PRESENT TIME, HAVE THE OIL RESERVES NECESSARY TO MEET LONG-TERM DEMAND. THE UNITED STATES CONTAINS APPROXIMATELY 4 PERCENT OF THE WORLD'S KNOWN CRUDE OIL RESERVES, BUT CONSUMES ANNUALLY LESS THAN 25 PERCENT OF ITS PETROLEUM OUTPUT. THE DAY MAY COME WHEN THIS NATION IS COMPELLED TO IMPORT AT LEAST 50 PERCENT OF ITS OIL REQUIREMENTS. THEREFORE, RATHER THAN IMPOSING RESTRICTIONS ON OUR ACCESS TO FOREIGN OIL, WE SHOULD BE FOCUSING ON THE STEPS THAT CAN BE TAKEN TO DEVELOP FREE WORLD PETROLEUM RESOURCES AND ALTERNATIVE FUELS.

MY SECOND CONCERN INVOLVES TRADE AND RELATED ECONOMIC

CONSIDERATIONS. I RECOGNIZE THAT AN IMPORT FEE COULD BE USED TO KEEP IMPORTS FROM EXCEEDING 50 PERCENT OF OIL CONSUMPTION. IT WOULD ALSO HELP INCREASE DOMESTIC OIL AND NATURAL GAS PRODUCTION AND PRESERVE JOBS IN THE INDUSTRY. HOWEVER, THERE WOULD BE A HIGH COST. AN IMPORT FEE WOULD RAISE THE COST OF OIL AND ITS SUBSTITUTES TO U.S. COMPANIES AND REDUCE THEIR COMPETITIVENESS. THIS WOULD ALSO REDUCE U.S. ECONOMIC GROWTH AND POSSIBLY STIMULATES INFLATION.

THE RECENT DEPARTMENT OF ENERGY (DOE) STUDY ON ENERGY SECURITY SUPPORTS THIS VIEW. DOE FOUND THAT AN IMPORT FEE WOULD REDUCE U.S. GNP AND HAVE INFLATIONARY EFFECTS. MOREOVER, AN OIL IMPORT FEE WOULD, FROM A TRADE PERSPECTIVE, REDUCE U.S. COMPETITIVENESS IN ENERGY INTENSIVE INDUSTRIES. THE DOE ENERGY SECURITY REVIEW AND OTHER STUDIES HAVE CONCLUDED THAT AN OIL IMPORT FEE IS NOT A COST EFFECTIVE WAY OF REDUCING OIL IMPORTS.

THERE MAY ALSO BE SITUATIONS IN WHICH THE 50 PERCENT IMPORT LIMITATION COULD RAISE UNWARRANTED TRADE FRICTIONS WITH OUR PRINCIPAL SUPPLIERS. FOR EXAMPLE, WE ARE NOW ENGAGED IN COMPREHENSIVE NEGOTIATIONS WITH CANADA ON A FREE TRADE AGREEMENT (FTA) THAT WOULD REMOVE BARRIERS TO TRADE AND INVESTMENT. A 50 PERCENT OIL IMPORT CEILING WOULD RUN COUNTER TO THE SPIRIT OF THESE NEGOTIATIONS AND COULD UNDO THE OIL TRADE LIBERALIZATION THAT HAS ALREADY BEEN IMPLEMENTED. FURTHER, ANY ATTEMPT TO EXEMPT ONE COUNTRY SUCH AS CANADA FROM THE IMPORT CEILING, WOULD

INVITE OTHER FRIENDLY SUPPLIERS TO REQUEST SIMILAR TREATMENT. AN ARBITRARY 50 PERCENT IMPORT LIMITATION COULD THUS, UNNECESSARILY POLITICIZE OIL TRADE AND ALSO UNDERMINE OUR REPEATED COMMITMENTS TO OUR ALLIES IN THE IEA/OECD TO REMOVE BARRIERS TO TRADE AND INVESTMENT IN ENERGY.

SECTION 232 OF THE TRADE EXPANSION ACT:

SECTION 232 OF THE TRADE EXPANSION ACT OF 1962 IS THE STATUTE THAT GIVES THE PRESIDENT AUTHORITY TO ADJUST IMPORTS IN ORDER TO REMOVE A NATIONAL SECURITY THREAT. THE DEPARTMENT OF COMMERCE HAS RESPONSIBILITY FOR CONDUCTING INVESTIGATIONS UNDER THIS STATUTE IN CONSULTATION WITH OTHER APPROPRIATE FEDERAL AGENCIES AND FOR MAKING RECOMMENDATIONS TO THE PRESIDENT. SECTION 232 INVESTIGATIONS TAKE INTO ACCOUNT A NUMBER OF FACTORS, SOME OF WHICH I HAVE DISCUSSED TODAY. FOR EXAMPLE, IN ADDITION TO IMPORT PENETRATION LEVELS, WE EXAMINE THE SOURCES AND RELIABILITY OF IMPORTS, OVERALL SUPPLY DIVERSIFICATION, AND ADEQUACY OF TOTAL AVAILABLE SUPPLIES DURING A NATIONAL SECURITY CRISIS.

THE STATUTE HAS BEEN INVOKED JUDICIOUSLY. IN 1975, PRESIDENT FORD USED SECTION 232 TO IMPOSE A NEW SYSTEM OF SUPPLEMENTAL FEES ON OIL IMPORTS. OVER TIME, THESE FEES WERE REDUCED TO ZERO. IN 1979, PRESIDENT CARTER SOUGHT TO USE SECTION 232 TO IMPOSE A GASOLINE TAX. HOWEVER, THIS ACTION WAS OVERTURNED BY THE COURTS. IN 1982, PRESIDENT REAGAN, EMBARGOED CRUDE OIL IMPORTS

FROM LIBYA USING HIS AUTHORITY UNDER THIS STATUTE.

WE HAVE NOT SELF-INITIATED SUCH AN INVESTIGATION DUE TO THE FACT THAT THE ADMINISTRATION ALREADY HAD UNDERWAY A MAJOR INTERAGENCY ENERGY SECURITY STUDY.

THIS STUDY INDICATED THAT, IN LIGHT OF MANY OF THE FACTORS THAT I HAVE JUST DISCUSSED, WE DO NOT CURRENTLY FACE A NATIONAL SECURITY THREAT. HOWEVER, THE DOE STUDY ALSO INDICATED THAT THERE MAY BE ENERGY SECURITY PROBLEMS IN THE 1990S IF WE DO NOT TAKE STEPS NOW TO INCREASE OUR DOMESTIC ENERGY PRODUCTION. IN THIS REGARD, THE ACTIONS THAT THE PRESIDENT IS RECOMMENDING REPRESENT THE BEST MEANS TO ENHANCE OUR ENERGY SECURITY.

ADMINISTRATION ENERGY POLICY:

I WOULD LIKE TO DISCUSS BRIEFLY SOME OF THE INITIATIVES THAT THE PRESIDENT HAS ENDORSED.

THE ADMINISTRATION SEEKS THE ENVIRONMENTALLY RESPONSIBLE ENERGY EXPLORATION AND DEVELOPMENT OF THE COSTAL PLAIN ARCTIC NATIONAL WILDLIFE REFUGE AND THE IMPLEMENTATION OF THE DEPARTMENT OF THE INTERIOR'S NEW FIVE-YEAR OFFSHORE OIL AND NATURAL GAS LEASING PLAN. THESE ARE THE LAST KNOWN MAJOR FRONTIERS THAT CONTAIN PROSPECTS FOR SIGNIFICANT OIL DISCOVERIES.

WE REMAIN COMMITTED TO THE EXPANSION OF SAFE NUCLEAR ELECTRIC POWER. IN THIS REGARD, WE ARE TRYING TO FOSTER THE FUTURE VIABILITY OF NUCLEAR POWER THROUGH LICENSING REFORM, REAUTHORIZATION OF THE PRICE-ANDERSON ACT, AND PROGRESS IN THE DEVELOPMENT OF A NUCLEAR WASTE REPOSITORY.

THE PRESIDENT CONTINUES TO SEEK COMPREHENSIVE NATURAL GAS WELLHEAD DEREGULATION, INCLUDING PRICE DECONTROL, AND HAS SENT CONGRESS A $2.5 BILLION CLEAN-COAL INITIATIVE. TAKEN TOGETHER, THESE MEASURES WILL EXPAND THE AVAILABILITY OF ALL FORMS OF ENERGY AND THEREBY, MAKE A MAJOR CONTRIBUTION TO NATIONAL SECURITY.

* * * *

IN SHORT, THE ADMINISTRATION IS ALREADY ACTING TO PROMOTE ENERGY SECURITY FOR THE 1980'S, 1990'S, AND BEYOND. WE AT THE COMMERCE DEPARTMENT WILL CONTINUE TO TRACK OIL IMPORTS AND WORK WITH OUR COLLEAGUES IN THE EXECUTIVE BRANCH ON A CONSTRUCTIVE AND EFFECTIVE ENERGY POLICY.

Senator **Metzenbaum**. Thank you very much, Dr. Freedenberg. I am going to limit questions to five minutes. In fact, I am going to ask the committee if they would even limit it a little beyond that because Senator Chafee is waiting to testify.

Senator Bradley, I yield to you first.

Senator **Bradley**. Thank you very much. I would like to come back to Dr. Freedenberg on the point of vulnerability to disruption.

Now, how much oil do we consume, Mr. Martin?

Mr. **Martin**. We import about 5.2 million barrels a day.

Senator **Bradley**. No. But in total consumption, 13 million. Right, about 13 million.

Mr. **Martin**. I'm sorry. Seventeen.

Senator **Bradley**. Seventeen million, okay. If there was a disruption and the price of oil went from—what is it today?

Mr. **Martin**. Oh, the spot market is around——

Senator **Bradley**. Pardon? Would you speak into the microphone so we can hear?

Mr. **Martin**. Yes. Spot is about $19. Contract below that.

Senator **Bradley**. So, let's say the price went to $30 a barrel. Would the price go to $30 a barrel on every barrel of oil that we consumed whether it was an import or not?

Mr. **Martin**. That's right.

Senator **Bradley**. Dr. Freedenberg, would that be the case?

Dr. **Freedenberg**. That's my understanding.

Senator **Bradley**. Is there any circumstance in which you could envision where the price would not go to $30 a barrel on every barrel that we produced?

Dr. **Freedenberg**. There could be controls.

Senator **Bradley**. Okay. So, the way that you could prevent the price from going to $30 a barrel on all of the oil is to put price controls on. Is that correct?

Dr. **Freedenberg**. That's correct.

Senator **Bradley**. So that in effect the only way that you could insulate the economy from a disruption would be to put price controls on the price of oil. Is that correct?

Dr. **Freedenberg**. I don't know if it is the only way. There are others—if there was disruption, you would find alternative sources.

Senator **Bradley**. So that essentially in a disruption, the price would go to $30 a barrel for all oil unless domestically you had price controls on.

Dr. **Freedenberg**. Yes. If you had domestic price controls, you would then average out as we have had in the past.

Senator **Bradley**. But you do not favor price controls. Is that correct?

Dr. **Freedenberg**. No.

Senator **Bradley**. Do you, Mr. Martin?

Mr. **Martin**. No, we don't.

Senator **Bradley**. So that absent price controls, we would have 17 million barrels of oil a day at $30 a barrel, and the United States would be the hardest hit in terms of our economy. Is that correct?

Now, do you make any distinction? We have heard a lot of talk about how vulnerable we are to imports. Are you worried about vulnerability to imports from Canada?

Mr. **Martin**. Senator, can I make a——

Senator **Bradley**. Just answer the question. Are you worried about imports from Canada?

Mr. **Martin**. No, I'm not worried about it, but I also know that if there is a disruption anywhere in the world, imports from Canada might be going someplace else as are imports from Venezuela because it is an integrated world oil market.

Senator **Bradley**. That is always possible. But you're not worried about imports from Mexico?

Mr. **Martin**. No.

Senator **Bradley**. You're not worried about imports from Venezuela? You are worried about imports from the Persian Gulf for obvious reasons. Is that correct?

Mr. **Martin**. That's correct.

Senator **Bradley**. What percent of our consumption now comes from the Persian Gulf?

Mr. **Martin**. We get about 800,000 barrels a day.

Senator **Bradley**. What percent is that?

Mr. **Martin**. Eight hundred thousand over 17 million.

Senator **Bradley**. Six percent.

Mr. **Martin**. Six percent.

Senator **Bradley**. So that the imports that are of concern to us represent only six percent. Is that correct?

Mr. **Martin**. No, that is not correct. Look back to 1979. We were not getting very much oil from Iran, and yet when that oil was cut off, Europe and Japan were hurt, and therefore oil that was going to us went to Rotterdam and the Orient because the price was going up. So, it is not just a matter of us being not that dependent on the Persian Gulf. We have got to look at Europe and Japan, too, given the integrated nature of the oil market.

You have got to look at what can be brought out from the surplus capacity. We have more stocks today, particulary government-owned, than we have had in the past. And we have a fair amount of surplus capacity. All that would be a factor, and that is why I don't think the price would go from $17 to $30, but notwithstanding your other points.

Senator **Bradley**. I thought that your argument earlier was that the only thing that protects us in a disruption—immediate protection—is oil in the stockpile. Is that correct?

Mr. **Martin**. That is a major contributor, but other nations who presently have surplus capacity may put that oil on the market such as Nigeria, such as Venezuela, such as Mexico.

Senator **Bradley**. Well, then help me as the buzzer goes off. Are you basically in favor of this proposal? Are you opposed to this proposal?

Mr. **Martin**. We are opposed to the proposal because we think it is simplistic and too automatic. We would like judgment to have a role.

Senator **Bradley**. Dr. Freedenberg.

Dr. **Freedenberg**. That's correct.

Senator **Bradley**. Thank you.

Senator **Metzenbaum**. Senator Domenici.

Senator **Domenici**. I will yield to the Senator from Oklahoma.

Senator **Metzenbaum**. Senator Nickles.

Senator NICKLES. Mr. Chairman, I made most of my comments. I would just make one comment. Did I hear you say that we are importing what—5.1, 5.6, 6.1?

Mr. MARTIN. I said 5.3 in 1986, and the current—and this is again net, Senator.

Senator NICKLES. I think if you take some quarters, the first quarter of the year, we are looking at gross imports about 6.1 million barrels a day.

Mr. MARTIN. We have netted 4.86. So, I don't—that's inventory draw-down primarily.

Senator NICKLES. Mr. Chairman, I will pass on a couple of my comments, but back to what Senator Bradley said, you wouldn't support price controls under any circumstances, would you?

Mr. MARTIN. That's right. We are opposed to price controls.

Senator NICKLES. Right now we do have if the price went up to $30 with the windfall profits tax, the Federal Government would be getting 70 percent of the incremental dollars between basically the base price and that higher price. Would you favor repealing the windfall profits tax?

Mr. MARTIN. Yes, we do strongly feel that is appropriate.

Senator NICKLES. I appreciate that.

Thank you, Mr. Chairman.

Senator METZENBAUM. Senator Evans.

Senator EVANS. Thank you, Mr. Chairman.

Senator METZENBAUM. Senator Domenici.

Senator EVANS. No, no. I'm just gearing up.

Senator METZENBAUM. Oh, I'm sorry. Apologize.

Senator EVANS. I'm just taking a deep breath. [Laughter.]

Senator METZENBAUM. First I recognize you and then I cut you off.

Senator EVANS. Yes.

I did not come in at the very beginning so I am not positive who is the author of the chart there. But I presume that it is the administration's chart?

Mr. MARTIN. That's our chart.

Senator EVANS. Your chart. Well, in reading the testimony I was struck particularly with Dr. Freedenberg's testimony. It was similar I think to that of Mr. Martin that the administration's concepts are to go after oil discoveries in the Arctic National Wildlife Refuge and off the coast, to try to revitalize nuclear power, make progress in the development of a nuclear waste repository, price decontrol, clean coal inventory. I see nothing in there—and I frankly have seen very little from the administration that even speaks to the potential of using energy more efficiently as a way to modify some of our future needs.

Do you have any ideas whatsoever as to how we could move ahead in that direction, or how we should?

Mr. MARTIN. Senator, I think first to recognize the conservation in energy efficiency is one of the major reasons we are in a much better situation today as far as demand is concerned. And we do not use any more energy today than we did in 1973, and we use less oil.

We believe that that has come about primarily because the price went up and consumers had it in their economic incentive to save energy. As I testified before, it was also due to CAFE standards which I recognized were helpful when prices were decontrolled.

Right now we support a wide range of R&D, and we also are doing an alternative fuels study which we have initiated in light of the Energy Security Report. Oil is concentrated in transport, and clearly one of the keys over the very long term is to discover what alternatives might be used in that sector. And we have that study under way. I think that is a very important follow-up to the Energy Security Report.

Senator EVANS. Well, I get the impression that you have got research going on in alternative fields. I am happy to hear that there is some going on.

But the appropriations over the last several years consistently have been withheld by the administration. Every year you send us back a recision notice, and that recision notice is almost a 100 percent recision of most of the alternative energy source research and development.

You have opposed fuel efficiency standards. You would like to eliminate them. You have opposed any attempt to even keep them where they are. The administration has twice now attempted unsuccessfully to lower them rather than maintain them.

I think it is safe to say that you have thoroughly messed up the nuclear repository issue, and the chances of rehabilitating the nuclear industry simply won't come until we straighten that out.

Frankly, I don't see a very bright picture ahead based on what we are now doing. And having said all of that, I don't think this bill is a very good idea either. So, I guess in that respect I do join with you. But I would certainly like to hear any ideas that are more extensive and more detailed than those I have seen so far toward a more efficient and better use of energy.

I agree with you that you immediately get a price generated impact in terms of efficiency by people. I think we have found that energy is a lot more elastic than most people thought. But that goes so far, then you have to help it along. Do you anticipate anything further than the list that you and Mr. Freedenberg have set forth here? Are there any new things that are even being thought of?

Mr. MARTIN. I think first it is our assumption and our projections that a good deal of conservation will continue as the capital stock is turned over that we replace 1977 cars with an 1987 car this year, and that means a more efficient fleet. We think that the new homes are more efficient than older homes. New construction is more efficient. And also new industrial processes are more efficient. These take very long lead times however, but we think the conservation will continue.

One of the measures we propose monitoring is conservation because where demand goes in the future is going to have a very large impact on our security. And that has to be looked at very, very carefully.

Senator EVANS. I will just say I thoroughly agree with all of that, but in our transportation sector, if we are now replacing old automobiles with new ones which are admittedly more fuel efficient, and if we are in the process now of lowering and attempting to abandon fuel efficiency standards, then in 1992 and 1993 and 1994 when we start replacing today's automobiles with the next generation of automobiles, are we going to be faced with a long-term trend in the wrong direction rather than the right direction?

Mr. **Martin**. Well, that is where I think this study of alternative fuels comes into play. I think we have to be thinking of a new concept for 1995 and beyond about the transportation sector in addition to gaining more efficiency. And I am looking forward to seeing the results of that study and will be happy to report to Congress when it is done.

Senator **Evans**. Could you submit it for the record? I know you haven't got the study done yet, but please submit what you are attempting to do, what the investment is going to be, and what the time period of the study is going to be?

Mr. **Martin**. Yes, sir.

[The information follows:]

Attached is a copy of testimony given by Scott L. Campbell, Director, Policy, Planning, and Analysis, on June 17, that describes the Department's alternative fuels assessment.

Testimony of

Scott L. Campbell

Director
Policy, Planning and Analysis
U.S. Department of Energy

Before the

Subcommittee on Energy and Power
Committee on Energy and Commerce
U.S. House of Representatives

June 17, 1987

Mr. Chairman and Members of the Subcommittee:

It is a pleasure to appear before you today to testify on the subject of alternative fuels for transportation. I appreciate this opportunity to discuss the Department of Energy's views on how alternative fuels might help contribute to the Nation's energy security. If we are to reduce the Nation's almost exclusive dependence on petroleum for transportation, we need to explore the benefits and the costs of alternatives to oil.

ALTERNATIVE FUELS AND ENERGY SECURITY

Last Fall, the President directed the Department of Energy (DOE) to undertake a study of U.S. energy security, in order to assess the implications of declining domestic oil production and rising oil imports. The study concluded that if current trends continue, the U.S. and its principal allies are likely in the next decade to become more dependent than at present on oil supplies from the historically unstable Persian Gulf.

Net U.S. imports of crude oil and petroleum products were cut in half between 1977 and 1985. During 1986, partly in response to lower prices, oil imports climbed by about 1 million barrels per day (mmbd) above the 1985 level. Projections in the Energy Security study show that net U.S. oil imports could reach 8 to 10 mmbd in the mid-1990s -- about one-half, or more, of total projected U.S. oil consumption. Since at any level of consumption, the Persian Gulf nations are the lowest cost producers, this increased demand is most likely to be met from Persian Gulf production capacity, providing the opportunity for OPEC producers to increase their market share to 1970s levels.

SHARES OF SURPLUS OIL
PRODUCTION CAPACITY IN 1986

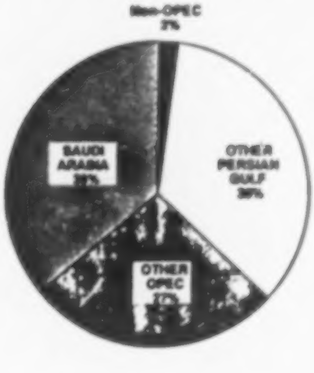
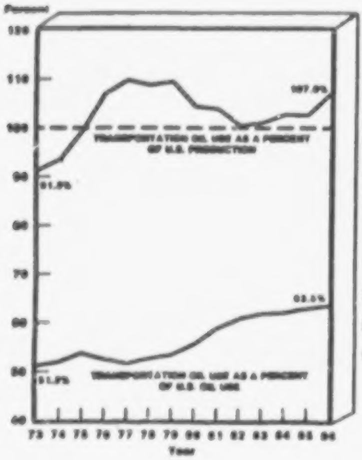


Figure 1.

TRANSPORTATION SECTOR AND ENERGY SECURITY

The transportation sector, the single largest and least flexible oil-consuming sector of the U.S. economy, is central to future American dependence on imported oil. Oil accounts for 97 percent of all transportation energy which in turn accounts for two-thirds of all the oil used in the U.S.



SINCE 1976, THE AMOUNT OF PETROLEUM USED BY THE TRANSPORTATION SECTOR HAS EXCEEDED U.S. PETROLEUM PRODUCTION

THE TRANSPORTATION SHARE OF U.S. PETROLEUM USE HAS GROWN TO 63.5 PERCENT

Figure 2.

Increased fuel efficiency in our vehicle fleet can reduce oil demand to some degree. Current DOE forecasts of transportation oil demand already assume continuing increases in vehicle fuel efficiency, projecting savings of nearly 2 mmbd in the year 2000.

Even with these savings, transportation fuel demand is projected to increase and in the year 2000, the U.S. transportation sector will still require from 10 to 11 million barrels of oil per day.

We believe one of the most promising opportunities for substantial reductions in oil consumption, and for introducing new fuel switching capability into the nation's energy system, lies in having the option of operating our vehicle fleet on economically, cost effective non-oil based fuels.

The Energy Security Report to the President recognized the link between oil dependence and the U.S. transportation system. The report recommended that the Department of Energy assess the costs and benefits of developing a flexible-fuel transportation system. We have already begun this assessment. As information and analyses emerge we will share them with this Subcommittee, and with others who are interested in this issue, and trust they will be helpful to our common deliberations.

COMPREHENSIVE ASSESSMENT OF ALTERNATIVE FUELS

The Department's plan for a comprehensive assessment of alternative fuel use will be important in determining the most cost-effective approach to developing alternative fuels. Many studies and a great deal of research on specific alternative fuels have been undertaken -- methanol use in California, ethanol use in Brazil and the U.S., compressed natural gas use in Europe and Canada. Much progress has been made in the introduction and use of neat (i.e., substantially undiluted) and blended alternative fuels, and technology development has reached maturity. Remaining market barriers to the use of low-level blends are being addressed. From an energy security standpoint, however, several important questions remain.

Central to our inquiry are the source, volume, and cost of alternative fuels supplies. Will these sources be more or less secure than oil supplies? What conditions will need to exist in the world's oil, gas and coal markets, to permit entry of alternative fuels? What impact will U.S. demand for alternative fuels have on the oil and gas markets of the latter 1990s? And most importantly, what effect will U.S. demand for these new fuels have on OPEC control of the oil market?

THE SCOPE OF THE STUDY

The DOE study ("Assessment of the Costs and Benefits of Flexible and Alternative Fuel Use in the U.S. Transportation System") will address these issues. The assessment is intended to provide information that will permit researchers, automobile designers and manufacturers, fuel producers and distributers, and the financial community to better define the alternative fuels options that best respond to national energy security concerns. Specifically, the assessment will:

1. Examine four transportation fuels: methyl alcohol (methanol), ethyl alcohol (ethanol), natural gas, and electricity.

2. Assess the costs, availability and sources of these alternative fuels and their feedstocks within the 1990-1999 time-frame.

3. Analyze a range of specific problems and issues, including:

    - o Distribution Systems. Calculate the costs and identify technical problems associated with development of national distribution systems for alternative fuels.

    - o Vehicle Technology. Characterize the technologies, and their costs, that will permit cars, buses, and trucks to use alternative fuels, in conjunction with or in addition to conventional fuels.

- Impact on World Oil Market and Other Benefits. Estimate the potential benefits of having alternative fuel capability in the U.S. transportation sector, including an analysis of likely world oil prices with and without such alternative fuel capability.

- What Other Countries Are Doing. Evaluate policy directions taken, or being considered, by OECD and other nations to promote the production, distribution and use of alternative fuels, and examine their applicability to U.S. conditions.

- Environmental, Health and Safety Effects. Determine the extent of environmental, health, and safety constraints or benefits of switching a significant portion of the U.S. transportation system to a non-petroleum fuel.

The assessment, which got underway in April, will require approximately one year to complete, with the final report scheduled for release in August 1988. Progress reports will be issued in July and December 1987 and in April 1988. Two major peer reviews of the technical analysis are planned, and consultations with major public and private sector parties have been initiated and will continue throughout the assessment period.

KEY CONSIDERATIONS

For the purpose of this study, DOE will apply the following assumptions and considerations:

1. The system will need to be capable of displacing significant volumes of conventional oil-based fuels in order to have an effect on the oil market.

2. In the likely transition period of the 1990s, alternative fuels will complement but not replace petroleum in the transportation sector.

3. Market conditions will ultimately determine fuel choices, but significant hurdles -- e.g., concurrent development of large scale distribution systems and large numbers of compatible vehicles -- will need to be overcome if any new neat fuel is to accomplish timely market penetration.

4. Alternative fuel vehicles and the supporting infrastructure provide opportunities for both vehicle manufacturers and fuel producers to diversify product lines to stay abreast of changing market conditions.

5. Alternative fuels systems can and should be introduced gradually and systematically by the marketplace, thus avoiding costly retrofitting and obsolescence.

6. The alternative fuels under consideration may also prove beneficial to meeting clean air standards.

7. The assessment will focus on demonstrating the potential of price-competitive fuels, not at providing price subsidies or other special treatment for otherwise uneconomic fuels.

ENERGY SECURITY CONCERNS

We first need to determine that long-term, high-volume, reliable, and economic supplies of one or more alternative fuels can be assured. Such supply sources might include, for example, remote, flared or other gas or domestic coal for methanol; grain or sugar crops for ethanol; and pipeline or liquified gas for compressed natural gas.

Questions about alternative fuel supplies and costs are of special concern to us. For example, today there is excess worldwide production capacity of 1 to 2 billion gallons a year of methanol, available for use in transportation, at a depressed price of 30 to 35 cents a gallon, wholesale. This surplus capacity, however, could be quickly absorbed by the expansion of California's methanol program, for example. Additional production capacity (for converting natural gas to methanol), when needed, would have to be built, which is expected to raise the price of methanol to allow producers to recover their investment costs.

We also have to ask where would we get additional supplies of gas? It may very well be from Saudia Arabia and other Persian Gulf nations that presently have significant supplies of low-cost gas. We plan to explore fully where and at what price alternative fuels -- methanol, ethanol and natural gas -- will be available.

Another major concern is about how economically-priced alternative fuels will compete with and displace oil. What volume of alternative fuel use will be needed to reduce the potential for OPEC market manipulation, and to moderate oil prices? We believe that several million barrels per day of new fuel will be needed to have such an impact. We have estimated that a reduction of one million barrels per day in U.S. demand can lower world oil prices by $1 to $2 per barrel.

Further, we need to assess the energy security and economic benefits that can justifiably be expected from the development of an alternative fuels market. Fuel flexibility and long-term capability to use domestic or other secure resources -- such as coal fur methanol production or North American gas for compressed natural gas -- can certainly provide significant benefits. But, the vehicle and fuel distribution infrastructure needed to use such fuels can be costly -- an investment to be carefully weighed against the benefits.

A number of additional questions remain concerning the cost of developing a nationwide alternative fuel distribution and utilization infrastructure. What are the costs for each of the candidate fuels or for multiple fuels entering the market concurrently?

The environmental, health and safety impacts of large scale alternative fuels production and use need further evaluation. While methanol, for example, may have a positive effect on reducing ozone formation, we need to carefully evaluate other environmental effects. Ethanol, methanol and other oxygenates in gasoline blends can help lower carbon monoxide emission levels, but may increase evaporative hydrocarbon emissions which add to ozone formation.

Other important technical and economic issues also require analysis. At various levels of displacement, what will be the relative economics of alternative fuels? Methanol prices may rise with increased demand. Currently lower night-time electricity rates may not be justified if millions of vehicle batteries are charged at night. Do Federal, State and local economic and regulatory programs create disincentives to marketplace adoption of alternative fuels?

CONCLUSION

I believe that Congress and the Administration have the same objectives on this issue. Sponsors of H.R. 1595, H.R. 2031, H.R. 2052, and other recently introduced alternative fuels legislation have foreseen the role that new fuels could play in the next decade. Our shared concern for energy security and for reducing air pollution can serve as common ground for its baseline information and analysis. We believe a comprehensive assessment of all fuels is needed. Our comments on specific bills are attached.

To conclude, Mr. Chairman, I believe the assessment now being undertaken by DOE will contribute to our understanding of alternative fuels market development and enhancement. We want to build on the progress that has been made, on the considerable body of knowledge developed by extensive technological research and development, and the important work done in California, Canada and elsewhere, that has set the stage for active consideration of significant alternative fuel use in the United States, and elsewhere.

We have built into our work plan repeated opportunities for review of DOE's analyses by those parties, public and private, who will bear the consequences of the choices ultimately made. We would be happy to keep the Committee informed of our work.

This concludes my statement, Mr. Chairman. I would be pleased to answer any questions.

Attachment

DOE'S COMMENTS ON ALTERNATIVE FUELS LEGISLATION INTRODUCED IN THE 100th CONGRESS

H.R. 2031

This bill would mandate that one-half of gasoline sold after 1987 contain 10% ethanol and the other half contain 5 percent methanol and 1.5% ethanol, would extend existing excise tax exemptions for qualified alcohol blends from 1992 to 2000 and finance the existing excise tax exemption from the general fund rather than the Highway Trust Fund.

The Administration is strongly opposed to this bill because it is a rigid regulatory approach to an emission and energy policy that disregards economic efficiency, and other technological alternatives, and eliminates the role of the market in making efficient choices. A sub-Cabinet Working Group is currently evaluating the cost effectiveness of using alcohol blends or pure alcohol fuels as an air emission strategy. This group will soon make recommendations to clarify or modify existing regulatory policies affecting the use of these fuels and to help guide state governments in selecting a cost-effective policy to meet regional air quality requirements. The recommendations of this sub-Cabinet Working Group will be taken under consideration by the Administration.

The Administration has strongly opposed and continues to oppose the extension of the qualified alcohol fuels excise tax and related subsidies beyond 1993. The ethanol industry will have had an adequate opportunity to become economically competitive by 1993. Any extensions would single out one alternative fuel for unfair, uneconomic and unneeded and costly subsidy. This extension is particularly inappropriate in the context of H.R. 2031 since it is simultaneously mandating the fuel and heavily subsidizing its production.

H.R. 2052

This bill would mandate an increasing percentage of ethanol in motor fuels from 1% in 1988 to 5% in 1992 and thereafter. This would be an average requirement administered in such a way as to allow distributors of other fuel to sell and purchase excess ethanol credits. In conjunction with these requirements the bill requires the Secretary of Energy to establish a program to promote ethanol as a motor fuel.

The Administration is opposed to this bill for much the same reasons as we oppose similar requirements in H.R. 2031. In this case, the bill requires only ethanol. The fact that one bill contains an arbitrarily determined ethanol requirement while another has an arbitrarily determined ethanol and methanol requirement illustrates the difficulties in substituting regulations for market forces. Each of these bills places the government into a complex process of regulations, monitoring and enforcement that will be disruptive to the fuel distribution industry and to the motoring public. These regulations may significantly increase the cost of both motor fuel and many farm products. The legislation provides no recognition of these probable increased costs -- it would simply require the economy to bear the cost. Whether or not incentives to use alcohols as an air quality policy are cost effective requires comprehensive analysis of their costs and benefits relative to other abatement strategies.

H.R. 1595

This bill would allow auto manufactuers to elect to have their "alternative-fuel-powered" vehicles included in the calculation of their corporate average fuel economy (CAFE). This bill defines methanol, ethanol, methane and other non-petroleum based fuels (as determined by the Secretary of Transportation) to be alternative fuels. It also specifies certain factors including the petroleum embodied in the production and distribution of the alternative fuel to be used as a basis for determining the CAFE adjustment.

This Administration believes that CAFE standards have outlived their usefulness and should be repealed.

Draft of Methanol Energy Policy Act of 1987

The purpose of the draft legislation is to establish a number of methanol and natural gas vehicle purchase and demonstration programs and to conduct methanol-related studies. Section (5) would also provide CAFE credits for methanol compatible vehicles. DOE opposes the draft bill. The provisions are costly and unnecessary. Specifically:

- Fuels other than methanol, e.g., compressed natural gas, electricity and ethanol, may play important roles in the transportation sector. This legislation largely ignores those other fuels.

- Demonstration programs have proven difficult to operate effectively, and minimally useful in establishing commercial acceptance of technology. The technology available for demonstration programs is typically either retrofit (because of the small number of vehicles involved) or not latest generation, and as such provides little in the way of "demonstration". The audience for such demonstrations is unclear. Development of a much larger market is needed than could be provided in a demonstration program.

- DOE and other agencies already have the authority to conduct the methanol-related studies called for in the bill. DOE and EPA have underway a number of analyses which cover methanol supply, utilization technology, environmental impacts, safety and other related issues.

- It is inappropriate for the U.S. Government to try to force methanol into the marketplace. The environmental and energy security benefits of fuel flexibility using methanol are generally considered positive. However, issues related to long-term sources of economically competitive supply and to the substantial costs of developing a distribution and utilization infrastructure remain to be addressed.

- With regard to CAFE credits for methanol vehicles: the Administration's position is as previously stated for H.R. 1595.

Senator EVANS. Thank you.

Senator METZENBAUM. Let me join Senator Evans in my concern about the administration's abdication of its responsibility in connection with fuel efficiency standards. We fought hard to get those fuel efficiency standards into the law. We compromised. We modified. And you let the automobile manufacturers violate the law, and then you turned your back on them and said it was okay. And when we in the Congress tried to do something about it, the administration said no way and we were helpless.

And so, I would say to you that one rollback would have increased oil demand—rather the fact that your action increased oil demand by 400,000 barrels a day, which is equivalent to 20 percent of Alaska's current production, and I don't believe that there is any basis on which the administration can justify its action in that respect. It let down the American people.

Now, your energy security report detailed the costs of oil import fees. Could you comment on the regional impacts of a $5 and $10 a barrel import fee?

Mr. MARTIN. Yes, sir. I would be glad to.

We did a thorough assessment of the oil import fee and two of our appendices are included. We looked first at what are the benefits of an oil import fee. We do know a $10 fee, for example, reduces oil imports in a future year through demand reduction as well as higher production. And indeed, there are some benefits which derive from that in 1995. We estimate a $10 fee will provide one and a half million dollars a day less imports into this country. At the same time we also estimate that there are some rather severe macroeconomic penalties which are imposed because it is a $10 tax on most consumers. And we estimate those into the billions of dollars.

Our methodology is very clear. Senator Domenici is getting some economists to take a look at our numbers.

But let me say one only need remember 1979 to see what the impact can be of a price rise on our economies, and there it was a $10 of $15 price increase, and the OECD group of countries was put into the worst recession since World War II. So, clearly there are economic penalties that are imposed on this. So, in the end we conclude that the costs of this outweigh the benefits.

Senator EVANS. Mr. Chairman, just one follow-up.

Senator METZENBAUM. Last question because Senator Chafee has been waiting patiently to testify.

Senator EVANS. Have you done an analysis? You've done the cost analysis and the effect on the GNP of a $10 import fee. Have you attempted any similar analysis of what would happen if we had a 10 percent or a 5 percent reduction in oil availability, what that would do to the economy?

Mr. MARTIN. Yes, we have in our disruption analyses. We note that. In fact, that is where you do have macroeconomic benefits from an oil import fee if, indeed, you have a severe disruption because you are less dependent on oil. Therefore, your economy is less vulnerable to oil price disruption.

Senator EVANS. If you have that material, will you submit it for the record?

Mr. **Martin**. We'd be glad to. In fact, we look at a catastrophic oil disruption case in 1995. But still that is a reward in 1995 or 1990. The cost of an oil import fee we have to pay this year or next year.

Senator **Evans**. I understand.

Mr. **Martin**. I'd be glad to submit for the record.

Senator **Evans**. Thank you.

[The information follows:]

Attached is a copy of Appendix C of the Energy Security report.

ENERGY SECURITY

A REPORT TO THE PRESIDENT OF THE UNITED STATES

UNITED STATES DEPARTMENT OF ENERGY
WASHINGTON, DC 20585
March 1987

Cost-effective opportunities to improve energy efficiency are worth stressing 238
International R&D cooperation offers valuable shortcuts and economies of scale 239
Continued monitoring needed to gauge progress and assist future decisions 239

APPENDICES FOR SUPPORTING ANALYSIS

A. Supporting Analysis for World Energy Outlook

B. Supporting Analysis for U.S. Energy Outlook

C. Economic Analysis of Oil Market Projections and Supply Disruption Scenarios

D. Overview and Analysis of Oil Import Fees

E. Analysis of a Gasoline Tax

PUBLIC COMMENTS

BIBLIOGRAPHY OF PUBLICLY AVAILABLE REFERENCE DOCUMENTS

APPENDIX C: ECONOMIC ANALYSIS OF OIL MARKET PROJECTIONS AND SUPPLY DISRUPTION SCENARIOS

INTRODUCTION

An interagency technical group consisting of staff from the Council of Economic Advisers, Office of Management and Budget, Department of Treasury and Department of Commerce were assigned two tasks in the energy security review: to evaluate the macroeconomic effects of the alternative oil price paths developed by the Department of Energy for the period 1987 to1995; and to analyze the effects on the oil market and the domestic economy of temporary supply disruptions.

The working group was provided with two scenarios for the world economy through 1995, a lower oil price case and a higher oil price case. Each scenario included a range of different assumptions about oil prices, economic growth, geology, oil production, capacity increases, and other economic variables in order to encompass reasonable extremes for the two possible states of the world oil market and the degree of dependency by oil-importing nations. Because of multiple differences in assumptions, it is not possible to attribute the contrasts in the two scenarios to differences in one particular variable alone, e.g., oil prices.

MACROECONOMIC CONSEQUENCES OF ALTERNATIVE OIL PRICE SCENARIOS

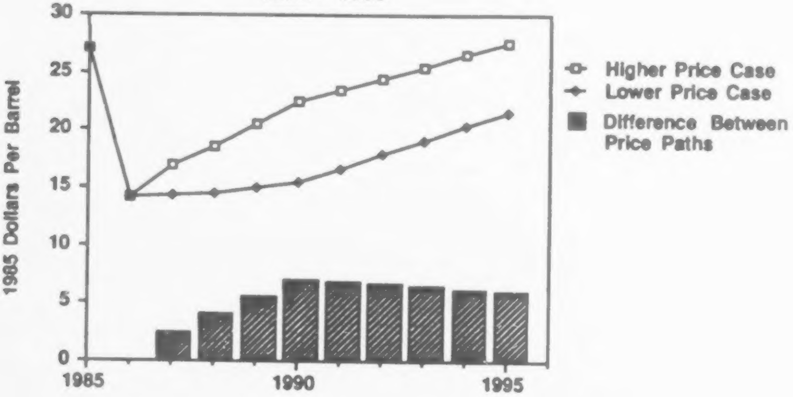
The working group was asked to evaluate the macroeconomic effects of two alternative oil price paths during the period 1987 through 1995. This analysis addresses the impact on the economy in terms of inflation, real GNP and its composition, and the terms of trade. The results were derived using a combination of econometric simulations and rules of thumb used by the forecasting group.

Characteristics of the Oil Price Scenarios

The two price paths differ in a number of respects, not only with respect to price. The lower price case envisions a world in which OPEC production policies result in lower oil prices. World oil demand responds strongly to the lower prices, eliminating most excess oil production capacity. In addition, problems develop with respect to supplies of alternate fuels so that their contribution to total energy supply is reduced in the 1990's. The higher price case assumes that OPEC succeeds in limiting production and maintaining higher prices, that excess capacity continues into the 1990's, and that other fuels continue to replace petroleum. In addition, the two cases differ with respect to economic growth. While all of these differences are important to some degree, the working group was asked to concentrate on the assessment of the economic impacts directly attributable to the alternative oil price paths.

The real price of oil, expressed in 1985 dollars, rises to $22 per barrel by 1995 in the lower price path, and to $28 per barrel in the higher price path. In the lower price case, the world oil price is little changed through 1990 at $15 per barrel, whereas, in the higher price case, prices begin rising immediately and reach $23 by 1990. The two price paths diverge rapidly in the early years, reaching a peak difference of over $7 per barrel by 1990. The price paths then converge slightly in the subsequent five years. As discussed below, the widening of the price differential in the early forecast years tends to exaggerate the real GNP and inflation effects of the higher oil price scenario relative to what they would have been if the differences between the two price paths diverged gradually to reach $6 per barrel by 1995.

One important assumption in both scenarios is that the volume of petroleum imports is expected to rise. Volume increases 25 percent from current levels in the higher price case and 100percent in the lower price case. The U.S. economy becomes more dependent on foreign oil in both scenarios. The oil price differential is not the only variable causing differences in the two scenarios. Many other factors are different as well. The $6 per barrel price differential is not, by itself, responsible for all of the oil market differences revealed under the higher price scenario.


ALTERNATIVE OIL PRICE SCENARIOS
1985 - 1995

Effects on Domestic Price Levels

The GNP deflator and the consumer price index employ different weighting schemes and definitions that result in substantially different impacts of higher oil prices on the two indexes. The GNP deflator is an index of prices for goods and services produced in the United States As such, it does not count the direct impact of higher prices of imported oil since that oil is produced in foreign countries. About two-thirds of the petroleum consumed in the U.S. today, however, is produced domestically. Higher prices for domestic oil will push up the GNP deflator.

The consumer price index measures prices for all goods and services purchased by households, regardless of where produced. Higher prices for imported oil directly affect the prices of gasoline and heating oil included in this index. Petroleum is also used to produce other non-energy goods and services. A higher petroleum price will not only raise consumer prices directly, but by raising business costs of production will indirectly affect prices of a wide range of consumer goods and services, providing the increase is accommodated by monetary policy.

The working group estimates that, by 1990, the overall consumer price index associated with the higher price assumption is roughly 2-1/2 percentage points higher than the lower price forecast, adding 1/2 percentage point to the inflation rate during that period (assuming no change in money supply growth). In comparison, the GNP deflator rises by 1-1/4 percentage points. After 1990, the combination of lagged effects and a narrowing oil price differential about offset each other so that the higher oil price path adds only 0.1 percentage point to the annual inflation rate.

Effects on Real GNP

An analysis of the effects of higher oil prices on real GNP needs to consider both supply and demand -- the capacity to produce as well as the demand response. As will become clear, neither aggregate supply nor aggregate demand are likely to be changed in a major way because of the higher oil prices. The composition of GNP, however, is materially changed.

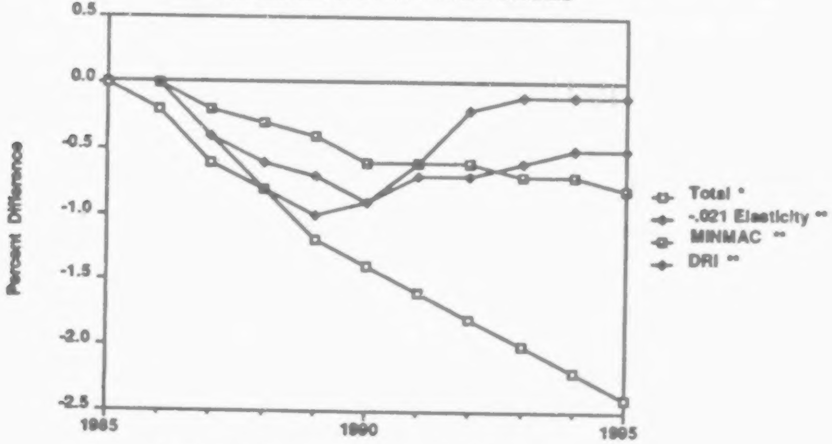
The capacity to produce – the supply side of the equation – is determined by growth in the labor force, changes in hours worked per week, and growth in productivity. The first two elements could be affected by higher oil prices, but it is not clear in which direction they would change. Higher prices tend to reduce real wages and make work less desirable; but they also reduce real income and could stimulate greater work effort in order to regain the lost income. The conflict of these two forces – in the context of a relatively small overall price change – is not likely to result in a measurable change in either direction.

Productivity growth is not likely to be perceptibly altered by higher oil prices. To the extent that energy and capital equipment are complementary inputs to production, higher energy prices should lead to a substitution of labor for both energy and capital. That would tend to dampen labor productivity, but the magnitude of this effect is very uncertain and is likely to be small.

For the two price scenarios under consideration, it seems best to consider the capacity to produce – the supply side – as essentially unaffected by the oil price differential.

The demand side of the economy is more heavily affected, at least in the early forecast period. Higher energy prices and a higher aggregate price level would reduce real incomes as well as aggregate demand until the economy adjusted to the higher prices. The level of real GNP, however, is most likely to be no more than one percentage point lower in 1990 in the higher price case than in the lower price case. This lower level of GNP is largely a consequence of the widening price differential over the 1987 to 1990 period.

GNP DIFFERENCES BETWEEN LOWER AND HIGHER PRICE CASES



* Total GNP difference due to all applicable factors.
** GNP differences due only to price paths.

As the differential between the two oil price paths narrows and then stabilizes, the economy adjusts to higher energy prices and the GNP losses are cut substantially. In 1995, the GNP loss is approximately one half percentage point. The economy does absorb a cumulative loss of real GNP of between $169 billion and $239 billion over the entire period through 1995 on an undiscounted basis. This represents an average yearly loss of 0.5 percent.

The working group used model simulation results from the Data Resources, Inc. (DRI) Annual Model of the U.S. economy and a DOE model (MINMAC) derived, in part, from an earlier version of the DRI model. In addition, the group compared the results of these simulations to the aggregate GNP/oil price elasticity (-0.021) used to evaluate short term oil supply disruptions (described below). The chart below shows the alternative results and compares them to the total GNP differential between the lower and higher price cases. On average, the model results indicate that about half of the assumed 1990 GNP differential can be attributed to the oil price differential, and less than one-third of the 1995 differential is attributable to oil prices. The working group concluded that variations in oil price assumptions of the magnitude considered ultimately will have only a small impact on the long-run level of aggregate production in the economy.

Effects on the Composition of Real GNP

Even though the total GNP effects are small, there are major differences in the composition of GNP between the two oil price paths.

- Real personal consumption expenditures in the higher price case decline steadily relative to the lower price case. Oil consumption is unambiguously lower with higher prices, and spending on other goods and services is adversely affected by the loss of real income.
- Much of the reduction in real personal consumption expenditures is absorbed by lower imports of various goods and services. Exports from the U.S. will be stimulated by the increased expenditures of oil exporters as they adjust to their higher real incomes in the regime with higher oil prices.
- Real business fixed investment (including residential construction) is adversely affected in the short-run by higher oil prices. This occurs partly because of inflation-induced higher interest rates, especially in the early part of the forecast period. The long-term effects, however, are difficult to quantify. Higher oil prices may shift investments from energy-intensive sectors to those that are less intensive energy users. Some types of capital expenditures (oil rigs, energy-saving appliances) will be stimulated by higher oil prices, while other capital will be reduced as users shift to other types of capital and substitute labor intensive production.

Employment levels are closely tied to the level of real GNP. The real GNP losses translate into a one-quarter percentage point rise in the unemployment rate by 1990. Higher oil prices encourage a substitution of labor for capital, which acts to stimulate employment. By 1995, when the aggregate level of GNP is about the same in both scenarios, the unemployment rate should be back at the level attained in the lower oil price scenario.

Terms-of-Trade Effects

Real GNP measures the value of goods produced in the economy, not those consumed. Under conditions where the U.S. must pay a higher price for imported oil, this represents a transfer of wealth to foreign countries. Even if the aggregate output of the economy as measured by GNP remains unchanged, the U.S. must now exchange more goods per barrel of oil imports than before the increases in the world oil price. Thus, less of U.S. production is left for domestic consumption, and the real welfare of U.S. consumers has declined.

This terms-of-trade effect can be calculated approximately as the change in the oil import bill, holding imports at the level that would prevail either under the higher price or lower price scenario. Since these import levels differ substantially, the terms-of-trade loss is exaggerated when using the level in the lower price (high import level) case and understated in the higher price case. These cases present upper and lower bounds on the terms-of-trade loss. Averaging the two, we obtain a loss of $21 billion or 0.5 percent of GNP in both 1990 and 1995. Although imports are higher by 1995, the oil price differential between the two cases declines slightly. Consequently, the terms-of-trade loss is virtually unchanged.

The most likely long-run consequences of higher oil prices are that the Nation's imports and consumption of various goods and services would be lower, while its exports would be higher. In short, living standards will be somewhat lower, even though production (GNP) is not greatly affected. These wealth effects resulting from a deterioration in the terms of trade are not captured in the aggregate GNP measure, although they are reflected in shifts in the components of GNP.

ECONOMIC LOSSES FROM AN OIL SUPPLY DISRUPTION

The interagency working group also was asked to estimate the economic loss from potential oil supply disruptions occurring in the 1990's. The group examined both historical-size supply disruptions, involving net reductions in world oil supplies of about 2 million barrels per day, and major supply disruptions involving 10 million barrel per day net reductions in world oil supplies.

Historical-Size Supply Disruptions

In the event of a net reduction in world oil supplies of about 2 million barrels per day (after taking into account production increases from undisrupted areas) occurring in the 1990's, the Department of Energy estimated that drawdown of the U.S. Strategic Petroleum Reserve and some other countries' emergency stocks would be sufficient to offset the volumetric impact of the disruption over a six-month period. DOE therefore estimated that moderate supply disruptions would have little effect on world oil prices. Thus, the economic impacts of such supply disruptions were determined by the interagency working group to be negligible. This conclusion applies to moderate supply disruptions occurring under either the higher or lower oil price scenarios. In fact, countries' stockdraw capabilities would be large enough to offset temporary supply disruptions of up to 4 to 5 million barrels per day.

Although consuming countries' responses could prevent the occurrence of price increases caused by a fundamental supply/demand imbalance, it is possible that some short-term price increases would nevertheless take place, due to initial panic reactions and uncertainty about the extent of the disruption and of government responses to it. However, the market would be expected to adjust fairly quickly once the circumstances of the disruption became clearer and once consuming country governments began to implement their responses. These possible panic reactions and eventual market adjustments are difficult to model because they depend on such factors as the level of private stocks available at the time, the nature of the supply disruption and the speed and effectiveness of consumer country responses. The working group therefore did not attempt to estimate the economic impact of such short-lived price increases.

Major Supply Disruptions: Scenario and Background Assumptions

The "major disruption" scenarios examined here involve a six-month net reduction in free world oil supplies of about 10 million barrels per day. Levels of real oil prices (P_0), U.S. petroleum consumption (Q_0), imports (I_0), and GNP (GNP_0) prior to the disruption are shown in Table 1. Consumption and imports are measured in millions of barrels per day, and imports include refined products converted to a crude-equivalent basis.

Table 1

Initial Conditions before Supply Disruption

CASE	Oil Price (P_0) 1985 $ per Barrel	Consumption (Q_0) Million Bbls/day	Imports (I_0) Million Bbls/day	Economic Output (GNP_0) Billion 1985 $
1990				
Higher Price Case	22.51	15.84	5.64	4,515
Lower Price Case	15.49	16.66	7.32	4,577
1995				
Higher Price Case	27.51	16.49	7.71	5,106
Lower Price Case	21.59	17.65	10.13	5,228

Disruptions are expressed in terms of world price shocks. The price equivalents of the hypothesized supply disruptions have been computed by DOE, and are shown on a quarterly basis in Table 2. Although the supply disruption is only six months in duration, the price shock persists for a full year after the onset of the disruption, reflecting stickiness of the oil price in returning to its predisruption level.

Table 2

Oil Prices during Four Quarters
Following the Start of a Major Oil Supply Disruption

CASE	Quarter 1 (P_{11})	Quarter 2 (P_{12})	Quarter 3 (P_{13})	Quarter 4 (P_{14})
		(1985 dollars per barrel)		
1990				
Higher Price Case	39.00	39.00	33.00	29.00
Lower Price Case	58.00	59.00	42.00	32.00
1995				
Higher Price Case	45.00	45.00	39.00	35.00
Lower Price Case	71.00	72.00	53.00	41.00

Terms-of-Trade Effect of Major Supply Disruptions

The "terms-of-trade effect" and the "GNP effect" of the disruption must be calculated and reported separately. While both are important, they represent different kinds of economic losses. GNP is a measure of value added, calculated on the basis of the value of domestic production. As such, it does not measure the change in purchasing power or wealth that would be the result of a large increase in the world price of oil and the resulting increased expenditures for oil imports. Nevertheless, the transfer of wealth from oil consumers to oil producers would represent a real economic loss to the United States, since the United States is a net oil importer.

This terms-of-trade effect is relatively easy to compute. It is calculated as the component resulting from to the increase in the price paid for oil imports, plus the deadweight loss (measured by consumers' surplus) resulting from the price shock and subsequent reduction in oil consumption. In addition to the assumptions listed above, calculation of the terms-of-trade effect requires knowing the total U.S. price elasticity of demand for oil, as well as the domestic supply elasticity. Estimates of the demand elasticity in each quarter for each of the four cases are given in Table 3.

Table 3

U.S. Oil Demand Elasticities During the Four Quarters
Following the Start of a Major Oil Supply Disruption

CASE	Quarter 1 (e_1)	Quarter 2 (e_2)	Quarter 3 (e_3)	Quarter 4 (e_4)
1990				
Higher Price Case	-0.1065	-0.1125	-0.1395	-0.1440
Lower Price Case	-0.1000	-0.1060	-0.1420	-0.1465
1995				
Higher Price Case	-0.1270	-0.1330	-0.1725	-0.1765
Lower Price Case	-0.1300	-0.1360	-0.1820	-0.1860

These elasticities are arithmetic averages of the "high impact" and "low impact" elasticities for each case embedded in the DOE models. Since the disruption is a short-run phenomenon, the U.S. production elasticity is assumed to be zero. Stockdraw behavior (both private and SPR) is embodied in the price shock paths.

Since domestic production remains constant during the disruption, the entire reduction in consumption must come from a fall in imports. Thus, the change in imports can be calculated as the change in U.S. demand resulting from the price increase. Consumption in any quarter during the disruption is given by

$$(1)\quad Q_{1i} = Q_0(P_{1i}/P_0)^{e_i}$$

where Q_{1i} is consumption during quarter i, Q_0 is consumption before the disruption, P_{1i} is the oil price during quarter i of the disruption, P_0 is the predisruption oil price, and e_i is the elasticity of U.S. oil demand during quarter i.

Since there is no change in domestic production,

$$(2)\ Q_{1i} - I_{1i} = Q_0 - I_0,$$

where Q_{1i} and Q_0 are defined as before, and I_{1i} and I_0 are imports during and prior to the disruption, respectively. Thus, imports in quarter i of the disruption are given by

$$(3)\ I_{1i} = I_0 - (Q_0 - Q_{1i}).$$

The portion of the terms-of-trade loss due to the higher price of imports in quarter i, D_i, is

$$(4)\ D_i = P_{1i} I_{1i} - P_0 I_{1i}.$$

The total of this component of the loss is obtained by converting the daily rates into quarterly rates and summing over the four quarters affected by the disruption.

The next step is to calculate the loss of consumer surplus. This will be equal to the "triangle" under the total U.S. demand curve. Using the same specification of demand, the lost consumer surplus in quarter i, T_i, can be shown to be

$$(5)\ T_i = [e_i/(1+e_i)]P_0Q_0 - [e_i/(1+e_i)]P_{1i}\,Q_{1i} - (Q_0 - Q_{1i})P_0.$$

These losses are converted from daily to quarterly rates and summed to obtain an annual total. Note that there is no change in producers' surplus since the short-run domestic supply elasticity is assumed to be 0. The transfer from domestic consumers to domestic producers has no net wealth effect on the domestic economy.

Terms of trade effects for the four cases, in dollars and as a percent of GNP, are shown in Table 4. These losses are in every case less than a year's normal growth in GNP. Losses associated with less severe disruptions would, of course, be correspondingly smaller.

Table 4

Terms-of-Trade Losses, Major Oil Supply Disruption

CASE	Billions of 1985 $	% of GNP
1990		
Higher Price Case	-23.6	-0.5
Lower Price Case	-71.2	-1.6
1995		
Higher Price Case	-35.4	-0.7
Lower Price Case	-118.3	-2.3

GNP Effect of Major Supply Disruptions

The GNP effects of an oil supply disruption are different from the terms-of-trade effects. GNP effects occur because the unexpected change in relative prices creates the need for adjustments in factor allocations. These adjustments can take time and may be inhibited by structural or institutional rigidities. The result can be temporary unemployment of resources (including labor), with actual GNP falling short of potential GNP.

There are no empirically operational models that capture these rigidities and adjustment lags at the micro level. Lacking such models, the only guide to the estimation of GNP effects is historical experience. Historical experience, however, is an uncertain guide because (1) macroeconomic effects depend critically on the policy regime, which has not been stable over time and is difficult to predict, (2) many factors influence macroeconomic performance, so that the data do not contain enough information to permit precise identification of particular effects with specific causes, and (3) it is problematic to forecast outside the range of historical experience.

It is beyond the resources of the working group to develop a new model of the macroeconomic effects of oil price shocks. As a result, the group had to rely on existing models to develop its estimates. Most existing models are based on parameters estimated from a sample period that includes the 1970's, and therefore the oil price shock effects calculated from these models will include the effects of the policies that were followed during the disruptions of that decade. Since these policies of price and allocation controls exacerbated the adverse effects of the price shocks, macroeconomic effects calculated using the parameters of the existing models may be exaggerated. Furthermore, elasticity estimates based on price control era data will be too large (in absolute terms) because of the systematic data distortions associated with price controls. Lastly, the severe tight-monetary policy adopted in 1974 accentuated the decline in economic activity associated with the oil supply disruption. One somewhat countervailing advantage of using existing models is that the degree of U.S. dependence on imported oil during the 1970's was similar to that expected during the 1990's under the lower price scenario.

After considerable discussion, the group decided to estimate GNP effects by using the elasticity of GNP with respect to a permanent oil price change reported by Michael Darby in his 1982 AER paper*. The value of this elasticity is -0.021, so that GNP in the first year after an increase in oil prices would be given by

$$(6)\quad GNP_1 = GNP_0(P_1/P_0)^{-0.021}.$$

Darby's model includes some statistically significant short-run effects, but it is likely that these were "due to short-run movements which might be related to various panic policy responses, briefly adopted here and abroad, to the temporary OPEC embargo at the end of 1973." Thus, Darby's long-run elasticity was selected to separate, insofar as possible, the policy effects from the oil shock itself.

This elasticity of -0.021 is consistent with a recent survey of macroeconomic models conducted by the Stanford Energy Modeling Forum. The EMF in 1984 simulated the impact of a 50% oil price increase in 14 macroeconomic models. Most of these models allow separation of the effect of an oil shock into terms-of-trade losses and GNP losses. The GNP losses can be divided further into "cyclical" and "potential" GNP losses. There would be no significant loss in potential GNP from a temporary oil shock, and the simulations show that the median, cyclical loss is 68.4% of the median GNP loss. The first year's median GNP loss is 1.42% of GNP, so the cyclical component relevant to estimating the loss from a temporary oil shock is 0.97%. Since the simulated price increase was 50%, this translates into a first-year GNP elasticity of -0.024.

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* Darby, Michael R., "The Price of Oil and World Inflation and Recession," The American Economic Review, September 1982, pp.739-751.

Use of an elasticity, such as that reported by Darby, estimated for a permanent price shock is likely to overstate the effect of a temporary shock. A transitory increase in oil prices would only have a small effect on an individual's permanent income, lessening the effect of the shock on consumption. A disruption known to be of limited duration would lead to some rearrangement of activity over time, with a fairly rapid recoupment of earlier production losses when the disruption ended.

Estimates of GNP losses, in dollars and as a percent of GNP, are presented in Table 5. As before, the four quarterly impacts were summed to obtain the annual total.

Table 5

GNP Losses, Major Oil Supply Disruption

CASE	Billions of 1985 $	% of GNP
1990		
Higher Price Case	-40.9	-0.9
Lower Price Case	-104.0	-2.3
1995		
Higher Price Case	-42.0	-0.8
Lower Price Case	-106.8	-2.0

These estimates of the GNP loss associated with an oil price increase are much more uncertain than the terms-of-trade loss. In addition to the conceptual and data difficulties discussed previously, there are statistical uncertainties that affect the estimates. The standard error of one of the parameters Darby used to calculate the long-run elasticity is larger than the parameter estimate itself. If the EMF survey results are used, only five of the 13 U.S. models allow separate calculation of permanent and cyclical GNP effects. Of the five, two are small, reduced-form monetarist-type models in which changes in potential GNP dominate cyclical effects. These two cases were excluded by the EMF in calculating the median cyclical effect; if they had been included, the cyclical effect, and hence the implicit GNP elasticity, would have been smaller.

Finally, there have been important structural changes in the U.S. energy economy over the last several years that may not be fully reflected in these models, but which may mitigate the impact of supply disruptions. Lower overall oil intensity and increased fuel switching capability are probably the most important of these fundamental changes which may reduce the GNP impacts of rapid price increases.

Additional Points and Caveats

o It should be reiterated that this analysis calculates effects of price shocks that extend beyond our range of experience. Parameters may not extrapolate reliably for very different conditions. In particular, larger demand elasticities would reduce the change in the oil import bill resulting from the increase in oil prices, lessening the associated terms-of-trade loss. The GNP elasticity might be different for real oil price changes that are much larger than those observed historically. We do not have any direct estimates of the short-run elasticity of substitution between oil and other inputs at real oil prices in the $70/bbl range.

- The results are predicated on the absence of a panic reaction by the government, such as imposition of price and allocation controls. The experience of the 1970's suggests that such ill-conceived actions magnify the losses to the economy from a supply disruption. The estimates presented here also are based on a timely drawdown of the Strategic Petroleum Reserve in reaction to the disruption.

- Estimates of disruption impacts on the United States alone do not capture all the national security implications of such supply interruptions. The consequences of a disruption on the economies of Japan or EEC countries might be more severe.

- Although potential disruptions have greater impacts in the lower price case than in the higher price case, it does not follow that the higher price case is preferable on economic grounds. In fact, the opposite is true. GNP is higher in each year in the lower price scenario, because that case represents a future in which oil is more abundant worldwide than in the higher price scenario. The cumulative difference in GNP over the period 1986-1995 between the two cases is $667 billion in 1985 dollars, assuming no disruptions through 1995. If a disruption occurs in 1995, the lower price case would still be favorable, by $519 billion, to the higher price case: $667 - ($118.3 + $106. 8 - $35.4 - $42.0) = $519.3 billion, treating the total loss from the disruption as the sum of the terms-of-trade loss and the GNP loss. Even if the economy on the lower price path experienced major oil supply disruptions in both 1990 and 1995, cumulative real income would be greater than if the economy were on the higher oil price path with no disruptions through 1995: $667 - ($71.2 + $118.3 + $104.0 + $106.8) = $266.7 billion. These calculations are given for illustrative purposes only.

- Finally, it must be emphasized that the higher price and lower price scenarios are based on a variety of different assumptions regarding geology, oil production capacity, and economic growth. Although prices differ in the two cases, comparative analysis of a particular policy instrument such as an oil import fee can be conducted properly only under a single consistent set of scenario assumptions. DOE has estimated that the costs of a self-inflicted oil price shock (such as an import fee) are substantially greater than its benefits, even if a disruption eventually occurs in the lower price scenario.

Senator METZENBAUM. Senator Domenici, did you have a question?

Senator DOMENICI. Yes, I'll try to be brief.

First, Secretary Martin, I want to thank you for your efforts to share your economic modeling with us. We will have for the record our assessment of it. If we are correct that you have double counted the macro effect and the micro effect, it is very dramatic in that a $5 a barrel import fee turns up positive on the economy rather substantially, and under yours it turns out negative to a rather substantial degree. And we hope to get that at least referred and the two versions put before the committee. We couldn't have done it without your assistance in giving us your model in detail.

Mr. Secretary, if there is little risk of U.S. energy security from an oil supply disruption, why are we sending U.S. warships to the Persian Gulf to protect Kuwaiti oil?

Mr. MARTIN. I wish I knew. I am glad you asked that question, Senator.

I mentioned at the moment from an energy security point of view the world has a considerable amount of surplus capacity. We have a relatively high level of stocks, and our dependence on the Persian Gulf is lower than it has been historically.

However, the trends which we see in the Energy Security Report are very troubling. Earlier we talked about 50 percent. We see 50 percent if one thinks in net imports occurring as early as 1992. If it is a gross, as Senator Nickles prefers to think of it, it is 1990. So, there is no doubt in our mind that the world is increasingly turning towards the Persian Gulf for its oil supply. So, there are very good reasons from the oil perspective to take the actions like the President has taken.

In addition, we know that the principle of freedom of navigation is at stake here. And again, the President's action highlights that, as well as a lot of friendly countries to U.S. interests, such as Israel and the friendly Gulf States. So, together there is no doubt in my mind that this region is extremely important for our energy security and will become even more so in the future. And that is why a stable Middle East is absolutely critical to achieving the type of future that we hope will come about.

Senator DOMENICI. I might say to you, Mr. Chairman, and to the Secretary, if indeed we are to protect Kuwaiti ships—and I assume we will, before we are finished the President will get the support of the Congress. I am delighted that the President has at least indicated that this is not singularly an American problem. I am pleased, if I heard him right last night, that he is going to ask our allies to share in some of the burdens. I don't know if he is going to ask them to share in the human risks. I don't know that we can do that.

But clearly I can tell you that from what I have done—and I say that to you as the Secretary and to you from Commerce—I think the problem the United States is going to have during the next decade to 15 years is going to be aggravated regardless from whom we import oil. If we have not maximized our own production and have to send American dollars, whether it is to Mexico, Canada or the Persian Gulf, we are quickly becoming dependent upon the world for capital. It is a rather amazing phenomenon. We have never seen anything like it. I have run the numbers. We have never been anywhere close to dependence upon capital and currency shortfalls internationally as we are now. And that will continue whether the money goes to the Japanese, as it has been going in abundance because of the trade deficit, or whether it goes to the Middle East.

So, it seems to this Senator that some balance which maximizes our production without totally destroying the American economy so as to keep more of our dollars here, if we could find that magic formula, you can find a cost benefit that justifies such activity. It may not be $10. It may not be $5, but clearly we need something when our production is going down as rapidly as it is, and we have no substitute at this point. Maybe it is superconductivity 10 years from now that saves us in terms of consumption on the transportation side.

But for now I don't think the problem is solely to analyze our dependence upon Persian Gulf oil. I think it is the growing dependence upon oil and sending our dollars to foreign countries. If that balance of trade deficit which has skyrocketed the two and a half years had added to it the amount we were sending to foreign countries for oil four and a half or five years ago, we would really have a situation that we are now predicting to occur 5 and 10 years from now and it would happen just because of oil and only oil.

So, I believe that the problem is a very serious one and I don't think it is necessarily dependent upon one segment or one area. I think it is the flow of American capital in abundance to other countries.

You all continue to say the President's plan will keep us under 50 percent. I just don't believe that. I am not here to criticize the conservation problems, not even the fuel standard thing. I think there are two sides to that issue. But frankly if the President's program isn't adopted, how are you going to get to 50? Do you see any indication we are going to have the tax relief that is recommended for the oil companies? Do you see deregulation of natural gas around the corner? All those things you say will keep us under 50, none of them, are going to occur around here.

Senator **Metzenbaum**. I don't want to cut my colleague off.

Senator **Domenici**. That is the end of my statement.

Senator **Metzenbaum**. Okay. Thank you very much, gentlemen. It is quarter to 4:00. The Chair must adjourn this meeting by 4:30. I have six more witnesses plus United States Senator John Chafee who has been waiting patiently. Senator Chafee, will you share your wisdom with us for about four minutes? I know how capable you are of speaking at length and eloquently, but in this instance conciseness will get you more brownie points.

Senator **Chafee**. All right. Are you ready, Mr. Chairman?

Senator **Metzenbaum**. We are ready. Roll.

STATEMENT OF HON. JOHN H. CHAFEE, A U.S. SENATOR FROM THE STATE OF RHODE ISLAND

Senator **Chafee**. Mr. Chairman and members of the subcommittee, first I would like to thank you, Mr. Chairman, for calling this hearing on the implications of S. 694, the so-called Energy Security

Act of 1987. In the Finance Committee we did not have extensive hearings on this proposal. So, it seems to me so appropriate that you have this forum, Mr. Chairman, for the pros and cons on it.

Now, everybody is concerned about establishing a sound energy policy. But this bill has a hidden agenda. To me it is a back door approach to enacting an oil import fee.

Senator Bentsen, our Chairman in the Finance Committee, brought it up as an amendment to the trade bill on the last day of our markup and it passed without lengthy debate. I voted against it and will work to delete it, that is, this section, this amendment, from the floor.

It is my understanding that Senator Bentsen is working on some modifications and his testimony was to that effect before you and your subcommittee today, Mr. Chairman. I am not certain that the bill has any possibilities of redemption, but I will be interested in seeing what Senator Bentsen has proposed.

One of the fundamental problems is that the bill reverses the way our legislative process was designed to work in the Constitution. Under this legislation, if the President proposes tax incentives for the oil or gas industry, or an oil import fee, these proposals become law unless the Congress vetoes them. Tax legislation thus would not arise as is meant to under the Constitution in the House of Representatives. Instead, under this it could come to us from the White House and we could veto it, but certainly that wasn't the proposal process that drafters of our Constitution envisioned.

My main concern, Mr. Chairman, is that it provides a back door for enacting an oil import fee, which I have gone on record many times against for the following reasons. An oil import fee is simply unfair. In our section of the country, in New England, we lead the nation in energy conservation, but we still depend on oil for fully 66 percent of our energy needs. An oil import fee would raise the cost of all oil, not just oil that is imported, and thus it would deal a savage blow to the homeowners and businesses in my state where the average citizen pays $1,000 a year to heat a home with oil. A $10 import fee would raise this bill by about $240.

An oil import fee raises the costs to business and jeopardizes the ability of domestic industries to compete. Maintaining artificially high energy costs may help some oil producers but endangers thousands of jobs by pricing other industries right out of the market, out of the world market.

It is an inefficient way of raising revenue. By definition it wouldn't apply to domestic oil companies. Yet, domestic prices, as I said, would rise to the price of the imported oil. Imported oil makes up 40 percent of the oil we consume domestically, but nonetheless the fee would cause the price of oil, all oil, to increase. Thus, for every dollar of increase in the price of oil, the Federal Government would collect only 40 cents. The consumers would pay the balance directly to domestic oil companies.

Now, I appreciate the concerns voiced by Senator Nickles and others from the oil states, in our Finance Committee ably represented by the oil states in Senator Boren and of course the Chairman, Senator Bentsen. However, there is another side to the coin. Lower energy costs can mean lower inflation. It can mean an increase in per capita income. It can mean more jobs for all Americans. So, I don't think we should necessarily keep that from happening. Now that the price of oil has declined, the American consumer, it seems to me, should be allowed to benefit.

I want to thank you very much, Mr. Chairman, for allowing me to say my views all in I hope less than four minutes.

[The prepared statement of Senator Chafee follows:]

STATEMENT BY
SENATOR JOHN H. CHAFEE
BEFORE THE
SUBCOMMITTEE ON ENERGY REGULATION AND CONSERVATION
OR THE
SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES
JUNE 2, 1987

FIRST, I WOULD LIKE TO THANK SENATOR METZENBAUM FOR CALLING THIS HEARING ON THE IMPLICATIONS OF ENACTING S. 694, THE SO-CALLED "ENERGY SECURITY ACT OF 1987". SINCE WE DID NOT HAVE EXTENSIVE HEARINGS ON THIS PROPOSAL IN THE FINANCE COMMITTEE, IT IS APPROPRIATE THAT THIS SUBCOMMITTEE PROVIDE A FORUM FOR DEBATING THE PRO'S AND CON'S OF THE BILL.

ALL OF US CARE ABOUT ESTABLISHING A SOUND ENERGY POLICY FOR THE COUNTRY, BUT THIS BILL HAS A HIDDEN AGENDA. IT IS A BACKDOOR APPROACH TO ENACTING AN OIL IMPORT FEE.

THE SENATORS SUPPORTING THIS LEGISLATION REALLY WANT AN OIL IMPORT FEE, BUT THEY KNOW THAT IF THEY WERE TO TRY THAT SORT OF DIRECT APPROACH IN LEGISLATION, THEY WOULD NOT SUCCEED. THEY HAVE SUCCEEDED IN GETTING THIS BILL ATTACHED TO THE OMNIBUS TRADE BILL WHICH WE JUST REPORTED OUT OF THE FINANCE COMMITTEE.

Senator Bentsen brought up S. 694 as an amendment to the trade bill in the Finance Committee on the last day of markup, and it passed without lengthy debate. I voted against it, and I will work to delete it from the bill on the floor.

It is my understanding that Senator Bentsen may be having second thoughts about his amendment now, and that he is working on some modifications to his original proposal. I am not certain that the bill has any possibility of redemption at this point, but I will be very interested in seeing Senator Bentsen's proposed changes.

One of the fundamental problems is that this bill reverses the way the our legislative process was designed to work in the Constitution. If the President proposes tax incentives for the oil and gas industry or an oil import fee, it becomes law unless the Congress vetos it. Tax legislation would no longer have to arise in the House of Representatives. Tax legislation could come to us from the White House, and we could veto it. This is not the process the drafters of our Constitution envisioned.

As I said at the outset of my remarks, my main concern with this bill is that it provides a backdoor for enacting an oil import fee. I have gone on record many times describing my reasons for

OPPOSING AN OIL IMPORT FEE, AND I WOULD LIKE TO BRIEFLY SUMMARIZE THOSE FOR THE RECORD.

AN OIL IMPORT FEE IS, FIRST OF ALL, SIMPLY UNFAIR. NEW ENGLAND LEADS THE NATION IN ENERGY CONSERVATION, BUT WE STILL DEPEND ON OIL FOR FULL 66% OF OUR ENERGY NEEDS -- A FIGURE WHICH IS NEARLY DOUBLE THE NATIONAL AVERAGE. AN OIL IMPORT FEE WUOL RAISE THE COST OF ALL OIL, NOT JUST IMPORTED OIL, AND THUS IT WOULD DEAL A SAVAGE BLOW TO THE HOMEOWNERS AND BUSINESSES OF MY STATE.

THE AVERAGE CITIZEN OF RHODE ISLAND NOW PAYS OVER $1000 A YEAR TO HEAT A HOME WITH OIL. A $10 OIL IMPORT FEE COULD RAISE THIS ANNUAL FUEL BILL BY NEARLY $240.

AN OIL IMPORT FEE RAISES THE ENERGY COSTS OF BUSINESSES AND JEOPARDIZES THE ABILITY OF DOMESTIC INDUSTRIES TO COMPETE. MAINTAINING ARTIFICIALLY HIGH ENERGY COSTS MAY HELP SOME OIL COMPANIES, BUT IT ALSO ENDANGERS THOUSANDS OF JOBS IN OTHER INDUSTRIES BY PRICING OUR PRODUCTS OUT OF WORLD MARKETS.

AN OIL IMPORT FEE IS A COMPLETELY INEFFICIENT WAY OF RAISING REVENUE. SUCH A FEE, BY DEFINITION, WOULD NOT APPLY TO DOMESTIC OIL COMPANIES, YET DOMESTIC OIL PRICES WOULD RISE TO THE LEVEL OF IMPORTED OIL. IMPORTED OIL MAKES UP APPROXIMATELY 40% OF THE OIL WE CONSUME DOMESTICALLY, BUT THE OIL IMPORT FEE WOULD CAUSE THE

PRICE OF ALL OIL TO INCREASE. FOR EVERY DOLLAR OF INCREASE IN THE PRICE OF OIL, HOWEVER, THE FEDERAL GOVERNMENT WOULD COLLECT ONLY 40 CENTS. THE CONSUMERS WOULD BE PAYING THE EXTRA 60 CENTS DIRECTLY TO THE OIL COMPANIES.

LOWER ENERGY COSTS CAN MEAN LOWER INFLATION, AN INCREASE IN PER CAPITA INCOME, AND MORE JOBS FOR ALL AMERICANS. LET'S NOT INTERVENE TO KEEP THIS FROM HAPPENING. NOW THAT THE PRICE OF OIL HAS DECLINED, THE AMERICAN CONSUMER SHOULD BE ALLOWED TO BENEFIT.

THANK YOU FOR GIVING ME THE OPPORTUNITY TO SHARE MY VIEWS WITH YOU ON THIS VERY IMPORTANT SUBJECT. I LOOK FORWARD TO WORKING WITH CHAIRMAN METZENBAUM ON THE FLOOR TO DELETE THIS AMENDMENT TO THE TRADE BILL.

Senator **Metzenbaum**. Thank you very much, Senator Chafee, and I look forward to working with you. As you know, I have sent around a "Dear Colleague" letter saying that I was going to offer an amendment to delete. I hope that I won't have to do it. I hope that Senator Bentsen will see fit on his own to delete. But if he doesn't, I hope you will be working with me, and my guess is you will.

Senator **Chafee**. I can guarantee you I certainly will work with you on that.

Senator **Metzenbaum**. Thank you very much.

Senator **Evans**. And just a quick question. Do you think that the way in which Senator Bentsen has proposed to modify section 232 of his bill is constitutional?

Senator **Chafee**. Well, in all fairness, Senator Evans, I didn't see—are you talking about the modifications he presented today?

Senator **Evans**. No, no. I'm talking about the original proposal.

Senator **Chafee**. Well, as I mentioned in my testimony, I have serious reservations whether it is constitutional. Now, that was brought up and we discussed it briefly. And we were given assurances that it was. And there was some question——

Senator **Evans**. There are only nine people who can give that assurance.

Senator **Chafee**. Well, I know. I know, but there were some precedents cited by serious looking people in the discussion. [Laughter.]

Senator **Chafee**. I think there are real problems. I really do.

Senator **Evans**. Are you as opposed to an increase in the gasoline tax as an oil import fee?

Senator **Chafee**. No. No, I'm not. I think that we may well get to that. In the Finance Committee we are confronted with this process of coming up with $18 billion. And I don't know where it is going to come from.

Senator **Evans**. Doesn't that have the same problem regionally that an oil import fee does for New England considering that probably people in the west travel twice as far as those in New England do?

Senator **Chafee**. That's right. And they have been vigilant in protecting their interests in the past. And I expect they will be in the future.

Senator **Evans**. Would a modest tap in each direction even things out?

Senator **Chafee**. No. I wouldn't find a tap in our direction modest. I must say I really am adamantly opposed to it. I think if you want to get into some btu tax, if that is possible, where it hits everybody the same. But as I mentioned in the statistics, we depend on oil twice as much as any other section of the country.

Senator **Metzenbaum**. Thank you, Senator Evans. Thank you, Senator Chafee.

Senator **Chafee**. Thank you very much, Mr. Chairman.

Senator **Metzenbaum**. Our next panel is a group of five: Mr. Richard Fillman, Director of Corporate Energy Affairs at Bethlehem Steel Corporation, Bethlehem, Pennsylvania; Ed Rothschild, Assistant Director, Citizen/Labor Energy Coalition of Washington; Jerome E. Link, Vice President, Celanese International Marketing

Company of New York, accompanied by Mr. Paul Holdorf, Vice President and General counsel of the same company; Ms. Susan Moya, Manager of Energy Policy, U.S. Chamber of Commerce; and Mr. James R. Wells, Vice President of Whale Oil Corp. of New Jersey of North Brunswick, New Jersey. He is representing the Fuel Merchants Association of New Jersey, the Empire State Petroleum Association, the Independent Fuel Terminal Operators Association, the New England Fuel Institute, the Society of Independent Gasoline Marketers of America. My God, what a full plate he has.

We are happy to have you all here. I understand that Mr. Rothschild is going out of town and would like to go on first. There are many around Washington who would like him to go out of town and stay out of town. [Laughter.]

Senator METZENBAUM. And although I am not one of those, Mr. Rothschild, if you will confine your remarks to four minutes, we will let you catch your plane.

STATEMENT OF EDWIN S. ROTHSCHILD, ASSISTANT DIRECTOR, CITIZEN/LABOR ENERGY COALITION

Mr. ROTHSCHILD. Well, thank you, Senator. I appreciate your comments. I would like to have my full testimony submitted for the record.

Senator METZENBAUM. The statements of all of you will be included in the record.

Mr. ROTHSCHILD. I just would like to focus—I know I share the view and CLEC shares the view we are opposed to S. 694. We are concerned about this being a back door way to an oil import fee, as Senator Chafee pointed out. I think just take a closer look at how this legislation, if enacted, would work, and that is the key thing here is how it would trigger the policy. The policy is triggered by a 50 percent level of imports, but the 50 percent level is very vaguely defined and it is very complicated and confusing.

First of all, 50 percent is only a maximum. It could be lower. We could have this thing implemented today if a president so chose. He could set the 50 percent at 40 or 35 percent. That is what the legislation, as we understand it, reads. That is number one.

Secondly, it is arbitrary, and that has already been mentioned.

Third, it depends on a projection, a three year projection. An administration could project three years out, and if any time in that three year period it hits 50 percent in their projection, it could trigger or, of course, lower. I just brought with me something that the Department of Energy Information Administration did comparing forecasts for 1985 by Energy Information Administration in their annual energy outlook by other famous forecasters well-known for their accuracy, DRI, Chase, Warden, and some others. For example, the forecast made by the annual energy outlook in 1985—they made for 1985—would have hit 50 percent in their projection. They projected oil imports of 16.3 quadrillion pdu per year. The actual usage consumption was 31.1. That exceeded. The actual imports, however, were 8.8. They were almost off by 50 percent. So, projections are unreliable, faulty, subject to the reliance on the assumptions, and you can change the assumptions, of course, to fit whatever thoughts you might have about the economy and the oil industry and whatever.

The other question is the difference between gross and net. We saw that Deputy Secretary Martin showed the difference between gross and net imports. That is not specified in the bill. It is not specified how the 50 percent is calculated if it is calculated at 50 percent. It is very confusing. He takes the total imports on the total U.S. crude oil production and petroleum product consumption. And if you put that total together, as my testimony shows, there is a very, very weird kind of numbers that come out.

I do want to address one other point of view, and that is the difference between dependence and vulnerability. In the previous disruptions, in 1973 and 1979, we did not have a strategic petroleum reserve. Today that is over 500,000 million barrels a day. That is the first line of defense. If the government acts quickly and dumps oil from the SPR into the marketplace, it could deal with a disruption or a vulnerability issue.

Senator METZENBAUM. Are you satisfied we can get it out of the strategic reserve?

Mr. ROTHSCHILD. No, I am not completely satisfied. I said "if." So, I mean, that's the question. If it acts appropriately for enough oil, enough oil in swiftly and does it the right way. Of course, those are number of ifs.

I do want to address one other thing that was raised by Senator Nickles with regard to if oil prices were up to $30, the windfall profits tax would collect 70 percent of the difference. The point is that it only collects 70 percent on old oil. Most of the new oil—in fact, probably more than 50 percent of the oil produced in the United States probably still wouldn't qualify for windfall profits tax if it went up that high. We have to keep that clear. Our position is the windfall profits tax is working just as the way Congress intended; that is, when there are windfalls, it collects them, and when there aren't, it doesn't. And so, it is working appropriately.

I'll be happy to respond to any questions at the appropriate time. Thank you.

[The prepared statement of Mr. Rothschild follows:]

TESTIMONY

OF

EDWIN S. ROTHSCHILD
ASSISTANT DIRECTOR
CITIZEN/LABOR ENERGY COALITION

BEFORE THE

SUBCOMMITTEE ON ENERGY REGULATION AND CONSERVATION
COMMITTEE ON ENERGY AND NATURAL RESOURCES
U.S. SENATE

ON

IMPLICATIONS OF S. 694,
THE ENERGY SECURITY ACT OF 1987

JUNE 2, 1987

SUMMARY

While the Citizen/Labor Energy Coalition recognizes the problems associated with growing consumption of oil and increasing dependence on oil imports (especially in view of the military build up in the Persian Gulf), it does not support which would require a President to act when a specified level of so-called "import dependence" is reached. In this regard, therefore, C/LEC opposes S. 694, the Energy Security Act. In our view, it is an ill-conceived and impractical proposal with potentially dire consequences.

C/LEC's concerns about S. 694 can be summarized as follows:

* S. 694 delegates broad Congressional authority to the Executive Branch. It would delegate to the President the ability to impose any number of highly debatable and controversial policies unilaterally.

* Under S. 694, the President could propose and implement policies, which are objected to by over half of each House of Congress, to deal with potential violations of the import ceiling which are only projected to occur two or three years down the road. And that could happen with no findings, no public hearings, and no justification of the assumptions used.

* Throughout S. 694 there are vague statutory and triggering mechanisms which are confusing and contradictory.

* S. 694 contains no mechanisms to allow for full public discussion and debate or for due process in administrative decisionmaking.

* S. 694 is essentially a covert effort to obtain imposition of a costly oil import fee or other mechanism to artificially prop up domestic oil prices.

This legislation would allow a president to do whatever he wanted to do on grounds of "energy security," and it would at the same time hamstring Congress's ability to vote its disapproval. And, in the event, Congress did disapprove, the President could use his veto power and thereby make it exceedingly difficult for Congress to reverse the president's policy. This legislation would, in effect, turn the legislative process on its head, expand presidential power at the expense of Congress and require two-thirds majorities to prevent presidential action.

Finally, there have been suggestions that when the trade bill comes to the floor that Senator Bentsen will seek to amend Section 5 and simply direct the president to use powers allowed under Sec. 232 of the Trade Expansion Act. This is not a remedy to the defects of the legislation, but, in fact, would increase the probability that a president will be forced to impose an oil import fee or a similar policy to artificially raise domestic oil prices.

Mr. Chairman and members of the Committee, my name is Edwin S. Rothschild. I am the assistant director of the Citizen/Labor Energy Coalition, a nationwide coalition representing over 12 million citizens who consume, oil, natural gas, electricity and other fuels and which, since 1979, has been working for federal and state policies which provide consumers with safe and affordable supplies of energy. We very much appreciate the opportunity to testify today on S. 694, the "Energy Security Act of 1987."

The Citizen/Labor Energy Coalition recognizes that rising oil imports raise important questions concerning U.S. vulnerability to sharp changes in oil prices and oil supply disruptions. We also recognize that U.S. vulnerability has been exacerbated by the hands-off energy stance of the current Adminstration. Over the past six years, the Reagan Administration has made major cuts in energy R&D and conservation programs. These cuts, although partially restored by Congress, have still resulted in the virtual loss of photovoltaic and other renewable energy development in this country as well as a dramatic slowdown in residential, commercial and industrial conservation efforts.

Although we may agree on the nature of the energy problems confronting the nation, C/LEC has serious reservations about the efficacy of S. 694, the Energy Security Act, in providing the solution to the nation's energy vulnerability problems. My testimony will focus on our reservations regarding an over-broad delegation to the executive branch of congressional authority, vague statutory provisions and triggering mechanisms, and an implicit effort to impose an oil import fee by "backdoor" means.

BROAD DELEGATION OF CONGRESSIONAL POWER

S. 694 establishes a two-part process under which action is required to be taken to prevent crude and petroleum product imports from exceeding half of projected U.S. petroleum demand. (The bill does not indicate whether import and consumption levels are to be combined for crude oil and products or calculated separately.)

In the first stage, the President would submit as part of the annual budget a certification of whether the 50% level would be violated during the following three years, and Congress would then have 10 days of continuous sessions to review the projection and disprove or modify it through joint resolution.

Under the provisions of this bill, for example, the President could certify to Congress in 1987 that in 1990 the 50 percent ceiling would be breached. Such a delegation of congressional authority places the burden of disproving the reliability and accuracy of the projection on Congress, as opposed to requiring the Executive Branch to demonstrate its correctness. Congressional oversight is thwarted and legislative review short-circuited. Moreover, it is highly unlikely that Congress would be able to act within such an extremely short period of time, especially since there are no expedited procedures provided for floor consideration.

In the second stage, the President would be required to submit within 90 days, upon certification that imports will exceed 50% of demand, a policy to prevent violation of the National Oil Import Ceiling. This policy may include imposition of an oil import fee, conservation actions, expansion of the Strategic Petroleum Reserve, and domestic oil and gas production incentives. Congress would have 90 days in which to review the policy and disapprove or modify it through a joint resolution.

For the President to decide on a policy within 90 days is, in and of itself, a very short period of time. It certainly is an insufficient amount of time to obtain advise from relevant government agencies and comments from the public. Without such input and review, this section would violate the due process provisions of the Administrative Procedure Act, which require public input and comment into administrative regulatory decision-making.[1]

With respect to the requirement that Congress would only have 90 days to review the policy, it is highly unlikely that Congress would be able to act in that amount of time, again particularly because of the absence of expedited procedures. The ability of Congress to pass any piece of major, controversial legislation in 90 days is doubtful at best. Even if action should be possible, given the likelihood of a presidential veto, it would take a two-thirds majority of both houses to block any policy.

In other words, should S. 694 pass, Congress would in all probability be giving the President the ability to impose any number of highly debatable and controversial policies unilaterally. Under this legislation the President of the United States could not only impose an oil import fee at any level, but also, under energy conservation actions, he could impose gasoline and diesel fuel rationing and natural gas supply curtailments. He could impose a 25 cents per gallon or 50 cents per gallon gasoline tax or a Btu tax on all fuels. He could devise petroleum allocation rules limiting oil use by some industries in favor of others, some regions versus others.

Under "production incentives for domestic oil and gas," the President could allow oil companies to drill for oil and gas in the Arctic National Wildlife Range, in currently restricted waters off California and other environmentally sensitive areas. He could order the decontrol of all natural gas prices. He could remove the restrictions on burning high sulfur oil. He could allow petroleum refiners to use lead to increase gasoline octane levels. He could provide for an increase in the depletion allowance, despite its budgetary implications.

We do not believe that those programs and policies should be ceded to any president and allowed to be implemented without full public debate and discussion. Under S. 694, the administration could propose and implement policies, which are objected to by over half of each House of Congress, to deal with potential violations of the import ceiling which are only projected to occur two or three years down the road. And that could happen with no findings, no public hearings, and no justification of the assumptions used. Moreover, there appear to be no time limits on the actions. Major policies could be imposed even if the violation of the National Oil Import Ceiling is expected to be short in duration or appear to be allowed to continue even after imports have long since declined.

Instead, we believe that, while Congress may require presidential recommendations on policy, it should not abrogate its responsibility to act on that policy before it is implemented. Otherwise, programs which could have potentially large negative effects on various sectors and regions of the country and which could have profound implications for overall economic and budgetary policies could be undertaken even in face of Congressional and public opposition.

VAGUE STATUTORY PROVISIONS

Throughout this bill there are vague statutory provisions and triggering mechanisms. The first is the establishment of an oil import ceiling where the ceiling level "shall not exceed 50 percent of United States crude and oil product consumption for any annual period." In 1986 the United States consumed an average of 12.5 million barrels per day of crude oil and 16.1 million barrels per day of petroleum products. As drafted, the bill seems to mean that the total of crude and petroleum product imports cannot exceed the combined total of 12.5 million barrels per day of crude oil consumed and 16.1 million barrels per day of petroleum products consumed or 28.6 million barrels per day of crude oil and petroleum products. Rather than "crude and oil product consumption," the legislation would make more sense if consumption were defined simply as consumption of "petroleum products."

Another problem with the definition is the question of gross versus net imports (imports less exports). "Net imports" is a more accurate measure of import dependency. If, however, gross imports as a percentage of total petroleum product consumption is used, it would result in a higher percentage than if net imports were used. Using 1986 as an example, gross imports totaled 6.1 million barrels per day and net imports were 5.3 million barrels per day. In percentage of total petroleum product demand, gross imports represented 38 percent, while net imports represented 33 percent -- a significant difference.

Another problem is whether imports for the Strategic Petroleum Reserve should be counted. A reasonable argument can be made that they should not, since they are not destined for immediate consumption.

Even more important is the grounds on which the 50 percent level has been selected. Recognizing that U.S. oil production will decline even at prices ranging between $18 to $20 per barrel, what makes 50 percent the level which ought to trigger a presidential action. Whether the United States imported only 10 percent of its oil or 65 percent of its oil, an international disruption in the world oil market would still have the same impact on the U.S. What protects the U.S. is not a limit on oil imports, but a large Strategic Petroleum Reserve.

Another vague section concerns the Presidential "report to Congress containing a national oil security projection..., which shall contain a forecast of domestic oil and NGL demand and production, and imports of crude oil and oil product for the subsequent three years." In this "projection" the President is to "certify whether foreign crude and oil product imports will exceed the ceiling level for any year during the next three years." Anyone familiar with oil supply, demand and price projections knows how unreliable they are. The language in this bill would use projections rather than facts to determine U.S. energy policy. To demonstrate how dangerous such a policy would be, one need only look back and examine some of the Administration's recent oil projections. In 1983 the Energy Information Administration projected that in 1985 U.S. net petroleum imports would total 5.2 million barrels per day. They were off by 900,000 barrels per day. In 1983 the EIA projected the average imported crude oil price in 1985 would be $34.06 per barrel. They were off by more than $7 per barrel.[1]

Another defect in this bill is that only one criteria is used to determine when U.S. energy security is threatened. As we have witnessed over the last 15 years, one of the most devastating impacts on the U.S. economy has been the large and sudden increase in oil and energy prices. Moreover, oil producers are today denouncing the large drop in oil prices. Yet, no where in this bill is price mentioned as a criteria with respect to energy security.

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[1] See Energy Forecasts for 1985, Energy Information Administration, DOE/EIA-0495, September 29, 1986, p. viii.

Since an oil import fee heads the list of possible answers to reduce import dependence, there should at least be consideration of price in making a determination. Of course, it then becomes necessary for the President to determine whether administered or competitively determined low, medium or high prices pose a threat to energy security. Clearly, since the aim of this legislation is to obtain artificially administered prices, a presidential discussion of prices must be avoided at all costs.

While virtually ceding energy policymaking to the executive branch, S. 694 does so without even providing guidelines for how policies should be created. In the Energy Policy and Conservation Act, under which the president was allowed to propose rationing and energy conservation plans, subject to Congressional review and expedited action, very specific criteria, guidelines and analyses were required to be met.

Under Section 201(d)(4)(E) of EPCA, for example, any rationing or energy conservation contingency plan had to be accomplished by evaluations of the effects on vital industries, employment, the "economic vitality" of individual states and regions, "the availability and price of consumer goods and service" and the GNP. Other sections required that the "mobility needs of the handicapped" be taken into consideration and set out procedures for consultations with the states. Those requirements were spelled out though Congress still had to act on the contingency plans before they could even be put on the shelf. In S. 694 those requirements are missing, but policies can be enacted without Congressional approval.

C/LEC believes that any policy designed to combat energy vulnerability must at minimum take into consideration:

1. The need to protect energy users, particularly residential and other "inelastic" users, from sudden price increases. The oil disruptions of 1973-74 and 1978-79 were remarkable not just because of the price burdens they placed on individual residential, agricultural, commercial and industrial consumers, but on the enormous and long-term price shocks they placed on the whole economy, including double-digit inflation and deep recessions.

2. The need to guarantee access to energy supplies for

key sectors of the economy, including agricultural users, vital industries, and residential consumers.

3. The need to adopt policies that protect the environment to the maximum extent practicable.

4. The need to recognize regional disparities in energy dependence and thereby to balance regional impacts.

S. 694 is silent regarding its relationship to other laws. For example, Sec. 232(b) of the Trade Expansion Act of 1962 provides ample authority for the Secretary of the Treasury to determine whether oil imports are entering the United States in such quantities or under such circumstances as to threaten to impair national security. This law authorizes the President to impose oil import fees or quotas or any other measure to limit oil imports. Under this law, the President does not need congressional approval. The question then arises, if the President already has authority to deal with this problem, why is this legislation necessary?

UNDERLYING ASSUMPTIONS: VULNERABILITY VS. DEPENDENCE

As has been said repeatedly since the oil disruptions of the 1970's, there is a difference between energy dependence and energy vulnerability. Importing energy, whether in the form of oil, natural gas or electricity, from Canada and Mexico is a substantially different matter than importing energy from the volatile Persian Gulf. Similarly, receiving energy imports from Caribbean or South American neighbors, where greater energy sales will allow these poor countries to repay loans to U.S. banks, or from European allies such as Great Britain and Norway does not add to our energy vulnerability. It creates interdependence and relationships of mutual benefit.

Since the United States is unlikely to become independent of imported sources of oil in the near future, the question is not really what level of dependence is a cause for concern, but rather whether the United States is vulnerable to oil supply disruptions. In this regard, one must examine the adequacy of the Strategic Petroleum Reserve, which, along with several other contingency plans, provides adequate protection against the supply and price distortions created by a supply disruption.

While this legislation appears to be "a modest" proposal dealing with increasing oil dependence and vulnerability, it is really aimed at finding a "backdoor" way to impose a very costly oil import fee on the nation. An oil import fee is, to be sure, a very controversial proposal, one which provides some benefits, but many more costs to the nation as a whole.

OIL PRICES, MARKETS AND ENERGY SECURITY

The underlying premise of S. 694 is that the Organization of Petroleum Exporting Countries is in full control over the world oil market, can effectively limit output and artificially maintain prices at whatever level is desirable for its members. Thus, this argument would claim that in the 1970's OPEC used its power to drive up prices, to flex its muscles and obtain billions of dollars in new revenues. Similarly, in the 1980's, this argument would hold that OPEC is driving prices down to obtain a greater share of the market at the expense of U.S. oil producers. This is mythology posing as analysis. The facts are far more complex and less distressing.

Many highly regarded oil economists no longer believe that OPEC can control the world oil market, if it ever did. Philip Verleger, a respected oil market analyst, recently testified,

> To achieve a return to the market stability of the past, producers need to exert control over output in a fashion which will achieve the effect of the market structure which existed in 1972. Both prices and consumption need to be stabilized. Uncertainty must be eliminated. Oil will not be "decommoditized" simply by ending the current glut because the return to a tight market will not eliminate uncertainty. Instead, prices will once again spiral upward. Oil can only be removed from the list of economic commodities through the establishment of joint producing agreements and maintenance of sufficient surplus capacity in producing countries. This is an outcome which seems beyond the ability of the members of OPEC. Thus, I am led to the conclusion that oil has become a commodity.[2]

Even though oil is a commodity, it is still true that OPEC, and particularly Saudi Arabia, can influence the market. From September 1985 through August 1986 Saudi Arabia, supported by the Reagan Administration, gave up its role of swing producer[3] and initiated a short-lived oil price war. By July 1986 oil prices in the spot market were less than $10 per barrel, a price far more reflective of competitive forces than the current price of $18 per barrel.

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[2] Testimony of Philip K. Verleger before the Subcommittee on Fossil and Synthetic Fuels, Committee on Energy and Commerce, House of Representatives, 99th Cong., 1st Sess., Hearings on Oil Outlook: Price, Supply, Mergers, Imports and Taxes, July 11, 1985, p. 165.

[3] With production capacity of 10 million barrels per day, Saudi Arabia can, more than any other nation, lower or raise its production to effect supply and prices. Up until August 1985, the Saudis had behaved in the same way that the Texas Railroad Commission used to behave. It had restricted its output in order

This $18 per barrel price, agreed to at the December OPEC meeting, supported by the Aramco partners (Chevron, Exxon, Mobil and Texaco) and the Reagan Administration,[4] is considered by Chevron's chairman George Keller to be an adequate price for the U.S. oil industry. According to Texas Governor Clements, it is a "survival" price.

But, of course, in a market in which oil has become a commodity, there is no certainty that the combination of Saudi Arabia, the Aramco partners and the Reagan Administration will succeed in supporting and maintaining the $18 per barrel price, which is why a segment of the domestic oil industry, fearful of competitive market pricing, is seeking federal price protection in the form of an oil import fee, a floor price or some equivalent.

THE DOE "ENERGY SECURITY" REPORT AND THE OIL IMPORT FEE

The most recent analysis of the changing oil market and the oil import fee is contained in the Department of Energy's report to the President on "Energy Security." Its findings and conclusions are instructive. With regard to the impact of lower oil prices on high-cost production (a portion of U.S. stripper well production), the report found:

> ...Lower oil prices will accentuate the short-term decline in oil production from high-cost sources, but this result is totally consistent with normal economic behavior.[5]

and

> For the most part, high-cost reserves will not be lost as a result of reduced exploration and development activities; these high-cost reserves will merely be

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to maintain world oil prices at an artificially high and arbitrary level.

[4] On his recent trip to Saudi Arabia Treasury Secretary James Baker, at a meeting with King Fahd, affirmed U.S. support for the $18 per barrel price.

[5] Energy Security, A Report to the President of the United States, United States Department of Energy, March 1987, p. 22.

> used at a later date. Only some quantities of stripper well production may be lost indefinitely.[6]

With regard to imposing an import fee to protect U.S. security, to raise U.S. oil production and reduce oil imports, the report reached the following conclusions:

> A $10 import fee, for example, could raise 1995 U.S. oil production by 500,000 barrels per day compared to what would otherwise occur.
>
> A $10 fee could add about 120,000 jobs in the oil industry; but it could reduce employment in other sectors by about 400,000.
>
> An oil import fee would raise the cost of oil and oil substitutes in the United States (not just oil). Raising energy prices for U.S. consumers above the levels paid in other countries would seriously reduce the Nation's economic growth, increase inflation, and reduce U.S. competitiveness in both foreign and domestic markets.
>
> Not all the additional revenue provided to the domestic oil industry would be re-invested in oil projects.
>
> An import fee is essentially a "drain America first" program. A fee raises the U.S. crude oil price and encourages accelerated production of U.S. reserves, leaving smaller reserves here for future production and impairing long-term energy security.[7]
>
> The economic costs listed for fixed import fees extend to any variable fee that actually affects prices. Just as with a fixed fee, a variable fee that raised oil prices would reduce GNP, reduce U.S. employment, and contribute to inflation.[8]

OPPOSITION TO AN OIL IMPORT FEE

In recent years the U.S. Senate has rejected oil import fee legislation by overwhelming margins. President Reagan has repeatedly stated his opposition to such a proposal as contrary to his "free market" philosophy. There is widespread opposition

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[6] Ibid., p. 23.

[7] Ibid., p. 73.

[8] Ibid., p. 74.

to an oil import fee by energy users. The electric utility industry, the petrochemical industry, the transportation industry, the independent marketing segment of the oil industry and average household consumers are unanimous is opposing an oil import fee.

Except for spokesmen who support the economic interests of domestic oil producers, there is widespread recognition that an oil import fee is bad energy policy, bad economic policy, bad trade policy, bad tax policy and bad foreign policy. For example, even the Independent Petroleum Association of America testified last year before this committee that,

> Protecting the economy and national security against an overdependence on foreign produced energy are a legitimate concern of the federal government warranting, under extreme circumstances, intervention in the market place. However, taxes, tariffs, fees or quotas on imported petroleum would be counter-productive to the national interest at this time.
>
> All proposed forms of import taxes would cause significant market distortions, resulting in artificial entitlement and allocation programs which only compound, not solve, market distortions.[9]

At the same hearing the then Deputy Secretary of Energy Danny Boggs also severely criticized import fee proposals. He stated, that the Administration did not

> ...dispute the difficult financial conditions that the domestic industry has experienced with falling oil prices, but the limited respite that producers can be granted from the realities of world oil pricoil import fee legislation by overwhelming margins. President Reagan has repeatedly stated his opposition to such a proposal as contrary to his "free market" philosophy. There is widespread opposition to an oil import fee by energy users. The electric utility industry, the petrochemical industry, the transportation industry, the independent marketing segment of the oil industry and average household consumers are unanimous is opposing an oil import fee.

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[9] Testimony of James C. Phelps, Chairman of the Joint Task Force on Petroleum Imports of the Independent Petroleum Association of America, before the Subcommittee on Energy and Agricultural Taxation, Committee on Finance, U.S. Senate, February 27, 1986.

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> ...dispute the difficult financial conditions that the domestic industry has experienced with falling oil prices, but the limited respite that producers can be granted from the realities of world oil pricing does not justify raising costs to all domestic oil users.[11]

Boggs also recognized the national security implications of U.S. vulnerability to international oil disruptions. To this concern, Boggs testified:

> The most effective energy security policy is to maintain an adequate strategic oil stockpile (as we do in the U.S.) and to encourage other oil consuming countries to increase their stockpiles to reasonable

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[10] Testimony of James C. Phelps, Chairman of the Joint Task Force on Petroleum Imports of the Independent Petroleum Association of America, before the Subcommittee on Energy and Agricultural Taxation, Committee on Finance, U.S. Senate, February 27, 1986.

[11] Statement by Danny J. Boggs, Deputy Secretary, U.S. Department of Energy, before the Subcommittee on Energy and Agricultural Taxation, Committee on Finance, U.S. Senate, February 27, 1986, p. 5.

levels and to encourage flexible response measures for use in the event of an oil supply disruption.[12]

Also testifying was E. Allen Wendt of the State Department, who raised serious concerns about an oil import fee's impact on U.S. foreign policy. "An import fee," testified Wendt, "may pose difficulties under the General Agreement on Trade and Tariffs...Even were a judgment made that imposition of an import fee was justifiable as a measure (necessary to protect our essential security interests), adversely affected GATT members which suffer demonstrable injury would be entitled to compensation or retaliation. U.S. exports to those member countries could suffer as a result."[13] Similarly, Wendt argued, "A new import tax would set back relations with our neighbors and our closest allies, some of whom have appealed to us not to adopt an import fee."[14]

CONCLUSION

In short, this legislation would allow a President to do whatever he wanted to do on grounds of "energy security," while it would severely hamper Congress's ability to vote its disapproval. And in the event Congress did disapprove, the President could veto it and thereby make it exceedingly difficult for Congress to reverse the President's decision. This legislation would, in effect, turn the legislative process on its head, expand presidential power at the expense of Congress and require two-thirds majorities, as opposed to simple majorities, to prevent presidential action.

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[12] Ibid., p. 7.

[13] Statement of E. Allen Wendt, Deputy Assistant Secretary of State for International Energy and Resources Policy, before the Subcommittee on Energy and Agricultural Taxation, Committee on Finance, U.S. Senate, February 28, 1986, p. 2.

[14] Ibid., p. 6.

Senator **Metzenbaum**. Thank you very much, Mr. Rothschild. The next witness I am going to call on is Ms. Susan Moya, Manager of Energy Policy of the U.S. Chamber of Commerce. I have been waiting here in the halls of the Senate to wait for the day when Ed Rothschild and the U.S. Chamber of Commerce were on the same side of an issue.

Ms. **Moya**. Senator, it is nice to be on the same side of an issue with you as well. [Laughter.]

Senator **Metzenbaum**. Thank you. Very good. Very good. Great retort. Great.

STATEMENT OF SUSAN CONNOLLY MOYA, MANAGER, ENERGY AND NATURAL RESOURCES POLICY, U.S. CHAMBER OF COMMERCE

Ms. **Moya**. I appreciate the opportunity to testify. I am here on behalf of my 180,000 members.

Senator **Metzenbaum**. Do you want to bring the mike a little closer please?

Ms. **Moya**. I think Ed pointed out a couple of concerns that the Chamber has with this bill. First of all, I want to go on record that the Chamber does oppose S. 694. We have the same questions about vulnerability versus dependence. And while we are terribly concerned about our growing import level—our members are very concerned about this—this arbitrary 50 percent level the bill has or below, as Ed correctly points out and the way we read it, is something that we just don't feel that the energy policy of the Nation should be based on such an arbitrary number. We believe that S. 694 misses this important distinction and, therefore, is particularly troublesome to us.

S. 694 does not also make any requirements of the President when he is considering imposing his policy to take into consideration like the strategic petroleum reserve, like industry oil stockpiling, and where the oil is coming from. I agree with the Senators that pointed out that the way the geopolitics are that if there is an oil disruption, it would affect the United States as much as others. At the same time also believe that our dependence on Persian Gulf for only 6 percent of our oil is also an important factor.

We believe that among the different mechanisms that the President could choose could be virtually limitless. I know that the lawyers will look at it on one side or the other as to what the President may propose under S. 694 and under section 232(B) of the trade bill. But we see things like such easy measures which are particularly troublesome to us as an oil import fee or quotas, an increase in the gasoline tax or a Btu tax on all fuels, rationing, curtailment or allocation of fuels, putting a prohibition on electric utilities to keep them from using oil and gas. The list is endless.

Particularly troublesome to the Chamber is the oil import fee question. We believe that a fee would deny Americans much of the economic benefit that has already resulted from declining oil prices.

I have attached to my testimony a copy of a statement that the Chamber submitted about a year ago to this committee which gives our analyses on an oil import fee. What is not included in that statement and what I would like to touch upon which has not been mentioned heretofore is that we believe an oil import fee would be in direct contradiction to an agreement signed by the members of the IEA. The members signed several years ago. They agreed to three principles, one of which were the objectives of IEA energy policies into the 1990s. And that policy is that they would promote free and open trade in energy by resisting protectionist measures.

In addition, an oil import fee may be illegal under the general agreement on tariffs and trade, or if not illegal, could lead to retaliation by U.S. trading partners, GATT or non-GATT members.

We are as concerned as others about the broad delegation of powers. And we like others believe that S. 694 is not necessary.

We suggest an alternative to 694. We believe that there are a number of pieces of legislation currently pending in the Congress that, if the Congress were as concerned about rising imports as they say they are and as the Chamber is, could go a long way to lessening our oil dependence and could actually help to mitigate an oil supply disruption if one occurred. You have heard them before. The opening of ANWR, outer continental shelf leasing in an orderly fashion, windfall profits tax repeal, natural gas decontrol—those are some of the items that I have listed in my testimony that we believe that if Congress took the courageous stance and enacted these, we would be lessening our dependence on imported oil, and we wouldn't even be looking at 694.

[The prepared statement of Ms. Moya follows:]

Statement
# of the
Chamber of Commerce
# of the
United States

ON: S. 694, "THE ENERGY SECURITY ACT OF 1987"

TO: SUBCOMMITTEE ON ENERGY REGULATION AND CONSERVATION OF THE SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES

BY: SUSAN CONNOLLY MOYA

DATE: JUNE 2, 1987

The Chamber's mission is to advance human progress through an economic,
political and social system based on individual freedom,
incentive, initiative, opportunity and responsibility

The U.S. Chamber of Commerce is the world's largest federation of business companies and associations and is the principal spokesman for the American business community. It represents approximately 180,000 businesses and organizations, such as local/state chambers of commerce and trade/professional associations.

More than 91 percent of the Chamber's members are small business firms with fewer than 100 employees, 58 percent with fewer than 10 employees. Yet, virtually all of the nation's largest companies are also active members. We are particularly cognizant of the problems of smaller businesses, as well as issues facing the business community at large.

Besides representing a cross section of the American business community in terms of number of employees, the Chamber represents a wide management spectrum by type of business and location. Each major classification of American business--manufacturing, retailing, services, construction, wholesaling, and finance--numbers more than 11,000 members. Yet no one group constitutes as much as 29 percent of the total membership. Further, the Chamber has substantial membership in all 50 states.

The Chamber's international reach is substantial as well. It believes that global interdependence provides an opportunity, not a threat. In addition to the 56 American Chambers of Commerce Abroad, an increasing number of members are engaged in the export and import of both goods and services and have ongoing investment activities. The Chamber favors strengthened international competitiveness and opposes artificial U.S. and foreign barriers to international business.

Positions on national issues are developed by a cross section of its members serving on committees, subcommittees and task forces. Currently, some 1,800 business people participate in this process.

STATEMENT
on
S. 694, "THE ENERGY SECURITY ACT OF 1987"
before the
SUBCOMMITTEE ON ENERGY REGULATION AND CONSERVATION
of the
SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES
for the
U.S. CHAMBER OF COMMERCE
by
Susan Connolly Moya
June 2, 1987

I am Susan Moya, Manager, Energy and Natural Resources Policy, Resources Policy Department of the U.S. Chamber of Commerce. I am appearing today on behalf of the more than 180,000 members of the Chamber.

The Chamber appeciates this opportunity to express its opposition to S. 694, "The Energy Security Act of 1987," introduced by Senator Bentsen. The Senate Committee on Finance, which Senator Bentsen chairs, recently adopted S. 694 as an amendment to S. 490, the omnibus trade bill.

The Chamber firmly supports national policies that will assure the adequacy and security of economically priced energy supplies. As such, it is concerned about rising oil imports. However, an increase in oil dependence is not necessarily the same as an increase in oil vulnerability. The oil that the U.S. imports from Canada, Venezuela, Mexico, and the North Sea are not as interruptible as that from the Persian Gulf. The Chamber believes that S. 694 misses this important distinction.

S. 694 would require the President to propose energy policy changes when imports reach 50 percent of consumption, without requiring the President to consider other important factors such, as the sources of imports, the amount of oil in the Strategic Petroleum Reserve, nor the amount of oil in industry stockpiles. While the Chamber is certain that S. 694 is well intentioned, this legislation may subject the American public to unnecessary regulations and higher prices for goods and services and disrupt our international trading relations.

My testimony today will elaborate on these and other points and will offer a strategy of implementing the unfinished Congressional agenda of energy policy changes, which, if implemented, would help to reduce the U.S.'s dependency on foreign oil and better prepare it for an energy emergency.

S. 694 May Have Undesired Consequences.

Based on its observation that energy dependency is not necessarily the same as energy vulnerability, the Chamber is concerned that S. 694 could have serious detrimental effects on American consumers and allies. S. 694 would provide the President with unlimited latitude in selecting measures to reduce oil imports. Hence, the Chamber is concerned that "easy" measures at the President's disposal, such as an oil import fee or quotas, an increase in the gasoline tax or a British Termal Unit tax on all fuels, rationing, curtailment or allocation of fuels, the prohibition of electric utilities from using oil or gas for electrical generation, mandatory energy conservation for homeowners or businesses, or even federal takeover of privately owned oil inventories, might be implemented in the heat of a perceived emergency.

The Chamber is purposely painting a grim picture of the future because it is a possible picture. S. 694 requires Congressional assent to the emergency policies, but weaknesses in the assent process described in the bill make assent virtually moot.

The Chamber fears that misguided and ill advised policies could be implemented in the heat of a perceived emergency, causing more havoc than 50 percent imports. For example, it would be particularly bad for the country if an oil import fee were imposed.

An oil import fee would deny Americans much of the economic benefit that has resulted from declining oil prices. While an oil import fee would spur some domestic production, if it were set high enough, the Chamber cautions that the resultant revenues to the federal treasury would be less than the static revenue estimates indicate. The economy would be negatively affected, and other sources of revenues would decrease. More importantly, an oil import fee, really a tax, would be discriminatory and regressive, create competitive imbalances, and penalize the U.S.'s allies. All of these facts and an analysis of how a fee would hurt the nation's economy are elaborated in an appendix to this testimony. The appendix is a statement submitted to this committee March 20, 1986. And while more than a year old, its conclusions still hold.

The appendix does not elaborate on the effect of a fee on orderly international trading. A fee may likely be illegal under the General Agreement on Tariffs and Trade (GATT) or, if not illegal, could lead to retaliation by U.S. trading partners, GATT or non-Gatt members. Further, interfering with the GATT would certainly be ill advised when this country is asserting leadership in attempting to improve the GATT and achieve more equitable world trade.

In addition, an oil import fee or similar measure would be in direct contradiction to an agreement signed (at the ministerial level) by members of the International Energy Agency (IEA) in July 1985. The members agreed that one of three principal objectives for IEA energy policies into the 1990s should be the promotion of free and open trade in energy, by resisting protectionist measures.

Having pointed out many of the adverse consequences that could ensue if S. 694 becomes law, the Chamber must also point out that beneficial consequences might also ensue. For example, under S. 694 the President could move to give various incentives to oil and gas production, permit drilling in the Outer Continental Shelf, open the Arctic National Wildlife Refuge (ANWR) for production, deregulate natural gas prices, or repeal the windfall profits tax. While the Chamber would like to see all of these policy changes implemented, it nonetheless believes that these issues deserve, even require, full Congressional and public debate.

S. 694 Delegates Broad Congressional Power to the President.

S. 694 would delegate broad Congressional power to the President. The bill establishes a two-step process designed to reduce oil imports.

In the first step, the Congress is given 10 session days to approve, disapprove, or change by joint resolution the President's annual projections of U.S. oil production, demand, and imports of crude and refined products for the three subsequent years. The Chamber questions whether Congress would be able to obtain sufficient data and advice within 10 days in order to reject or change the President's data.

In the second step, the Congress would be given 90 session days to review, approve, disapprove, or change the President's policy. The Chamber questions if this is fair, proper, or even possible. A dire consequence would be duplication of studies and argument over who is right, not what is right.

Unless modified or overturned by Congress in 90 days, the President's policy would go into effect. This means that if a small group of members of Congress or a single Committee Chairman in either house delays consideration of a bill to stop or change the President's policy, the policy would go into effect. This process brings into question who is making (or blocking) policy and whether the policy-making process could survive.

Chamber Believes S. 694 Is Unnecessary.

The Chamber suggests that S. 694 is not necessary because Section 232(b) of the Trade Expansion Act of 1962, which S. 694 would modify, already grants the President authority to determine whether oil imports are in such quantities or under such circumstances as to threaten national security. All of the options available to the President under S. 694 to deal with the energy security situation are available now under Section 232(b). The major differences are that S. 694 requires the President to take action when oil imports exceed 50 percent of U.S. consumption without regard for the sources of the imports. Current law is discretionary; it allows the President to determine whether U.S. oil imports threaten national security. This decision can be made with prudence, such as by consultation with cabinet and other officials, and even include public hearings.

A Suggested Energy Emergency Preparedness Strategy.

The Chamber suggests that as an alternative to S. 694, the Congress complete its unfinished energy agenda. A number of issues are pending, which, if enacted, could go a long way to lessening U.S. dependence on oil imports and would help to mitigate the effects of a supply disruption. The Chamber urges that the Senate delete S. 694 from the omnibus trade bill when it is considered in the next several weeks. Instead, we urge the Congress to finish the pending energy security agenda, which includes: decontrolling natural gas; repealing the windfall profit tax; filling the Strategic Petroleum Reserve (with caveats); developing the Arctic National Wildlife Refuge and Outer Continental Shelf resources; retaining adequate tax treatment for investment in domestic energy production; and reforming nuclear licensing.

Conclusion.

While the Chamber is concerned about rising oil imports, S. 694 is not the appropriate solution. It cautions that this bill, however well-intentioned, may subject the American public to unnecessary regulations and higher prices for goods and services and adversely affect America's international trading relations.

Instead of S. 694 or similar legislation, the Chamber urges Congress to finish the energy agenda described above. Many experts, in and out of government, have endorsed this agenda as a means of alleviating oil dependency and averting disruption.

APPENDIX

Statement of the Chamber of Commerce of the United States

ON: AN OIL IMPORT TAX

TO: SENATE COMMITTEE ON ENERGY AND
NATURAL RESOURCES

BY: SUSAN L. CONNOLLY

DATE: MARCH 20, 1986

The Chamber's mission is to advance human progress through an economic,
political and social system based on individual freedom,
incentive, initiative, opportunity and responsibility.

The Chamber of Commerce of the United States is the world's largest federation of business companies and associations and is the principal spokesman for the American business community. It represents almost 180,000 businesses plus several thousand organizations, such as local/state chambers of commerce and trade/professional associations.

More than 91 percent of the Chamber's members are small business firms with fewer than 100 employees, 57 percent with fewer than 10 employees. Yet, virtually all of the nation's largest companies are also active members. We are particularly cognizant of the problems of smaller businesses, as well as issues facing the business community at large.

Besides representing a cross section of the American business community in terms of number of employees, the Chamber represents a wide management spectrum by type of business and location. Each major classification of American business--manufacturing, retailing, services, construction, wholesaling, and finance--numbers more than 12,000 members. Yet no one group constitutes as much as 29 percent of the total membership. Further, the Chamber has substantial membership in all 50 states.

The Chamber's international reach is substantial as well. It believes that global interdependence provides an opportunity, not a threat. In addition to the 56 American Chambers of Commerce Abroad, an increasing number of members are engaged in the export and import of both goods and services and have ongoing investment activities. The Chamber favors strengthened international competitiveness and opposes artificial U.S. and foreign barriers to international business.

Positions on national issues are developed by a cross section of its members serving on committees, subcommittees and task forces. Currently, some 1,800 business people participate in this process.

STATEMENT
on
AN OIL IMPORT TAX
for submission to the
SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES
by
Susan L. Connolly*
March 20, 1986

The U.S. Chamber of Commerce is pleased to have the opportunity to comment as the Committee considers the issue of a tax on imported oil.

The Chamber strongly opposes any new energy production or use taxes, including an oil import fee or increased federal tax on gasoline. This position has been reviewed twice by the Chamber's Board of Directors during the past four months. Each time the Board voted to oppose such taxes.

It urges opposition to such legislation as S. 1997, introduced by Senators Wallop and Bentsen, to establish a $22 per barrel floor price for the imposition of a tax on imported oil; S. 1507, introduced by Senator Boren, to levy a $5 per barrel tax on imported crude oil and a $10 per barrel tax on refined petroleum products; and any other energy tax proposals offered as a means of reducing the federal deficit, keeping the tax reform bill "revenue neutral," shoring up the price of domestic oil, promoting energy independence, or other purposes.

The Chamber believes an oil import fee would deny Americans much of the economic benefit resulting from declining oil prices. While an oil import tax would raise revenues, we caution that the actual revenues to the federal Treasury would be less than the static revenue estimates indicate. Further, an oil import tax would be discriminatory and regressive, hurt the overall economy, create competitive imbalances, and penalize our allies. Our reasons for these conclusions are elaborated in the following three sections.

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*Manager, Energy and Natural Resources Policy, Resources Policy Department

(1) Economic Benefits of an Oil Price Decline

Econometric studies generally agree that a decline in the price of oil would have a positive effect on our nation's economy by lowering inflation and interest rates and, thus, spurring economic growth and reducing unemployment.

Chamber economists examined the probable effects of an arbitrary $10 per barrel drop in oil prices. The results are listed in Table 1. Generally, they found it would provide the following benefits to the American economy:

A Drop in Oil Prices Raises GNP and Lowers Inflation. A sustained $10 per barrel drop in oil prices would raise the level of real GNP by 0.8 percent in the first year and 1.6 percent in the second year compared to what otherwise would have been the case. (See Figure 1.) In terms of growth rates, this means that a $10 per barrel decline in the price of oil would add 1.2 percentage points to real GNP growth in the first year and 1.0 percentage points in the second.

As a result of recent oil price decreases, we can expect real GNP to be 1.2 percentage points higher in 1986 and 1.0 percentage point higher in 1987 than would otherwise have been the case. Using the December 1985[*] Blue Chip consensus forecast of 2.5 percent growth in 1986 and 3.1 percent growth in 1987 as a starting point, this means that *on the basis of the oil price decline that has already occurred*, we can expect real GNP growth to be 3.7 percent this year and 4.1 percent in 1987.

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[*] The rationale for using the December 1985 consensus forecast rather than the latest one is that the former probably did not anticipate as rapid a decline in oil prices as has actually occurred.

The drop in oil prices would lower inflation. A $10 per barrel decline in oil prices would lower the rate of growth of the consumer price index by 1.1 percentage points in the first year. Any fall in oil prices is particularly good news to consumers as it cuts their energy bills.

Reduced Inflation Leads to Lower Interest Rates. Lower inflation rates are expected to lead to lower interest rates in 1986 and 1987. A $10 per barrel drop in oil prices should lower the rate on three-month Treasury bills by 30 basis points in 1986 and 20 basis points in 1987.

Lower Energy Costs and Lower Interest Rates Spur Investment. Lower energy costs and lower interest rates improve the outlook for both residential and nonresidential investment. A sustained $10 per barrel drop in oil prices should have the following effects: In 1986 and 1987, the level of nonresidential investment would be 1.3 percent and 3.0 percent higher, respectively, than otherwise would have been the case. Similarly, residential investment would be 2.1 percent higher in 1986 and 4.1 percent higher in 1987.

Increased Investment Creates More Jobs. Increased investment creates more private-sector jobs. As a result, civilian employment should be 0.4 percent higher in 1986 and 0.9 percent higher in 1987, than otherwise would have been the case. (See Figure 2.)

Lower Prices and Increased Employment Stimulate Consumer Spending. Lower prices and increased employment will raise real disposable income and consumer purchasing power. As a result, consumer spending will increase.

Chamber economists predict that the combination of stronger income growth and lower interest rates would reduce the budget deficit by a cumulative $20 billion over two years.

(2) Negative Effects on the Economy from an Oil Import Tax

Chamber economists also examined the economic impact of an oil import tax on the national economy. A simulation was performed by the consulting firm of Laurence H. Meyer & Associates (Table 2) based on an arbitrary $5 per barrel import tax. The static revenue increase from the tax is estimated to be $10.1 billion in 1986 and $10.8 billion in 1987. It is assumed that the Federal Reserve will realize that the rise in inflation is due to the import tax and not an upward trend in prices and, thus, provide additional reserves to maintain interest rates at approximately the same level as the base case. If the Federal Reserve did not accommodate the new tax, however, the negative effect on the economy, particularly on investment, would be larger.

The results of the simulation show that enactment of an import tax would lower overall economic activity and significantly increase inflation, partially offsetting the gains to the nation's economy stemming from the recent slide in oil prices. We believe these results offer compelling arguments against the imposition of an oil import tax.

An Oil Import Tax Lowers Real GNP, Increases Inflation and Lowers Consumer Spending. The level of real GNP would be 0.2 percent lower in 1986 (or $8 billion) and 0.5 percent lower in 1987 (or $17.3 billion) than otherwise would have been the case. This means that the rate of growth of real GNP would be 0.2 percentage points lower each year. (See Figure 3.) As a consequence of reduced economic activity and higher prices, real consumer spending would be 0.2 percent lower in 1986 (or $5.8 billion) and 0.4 percent lower in 1987 (or $10.5 billion) than otherwise would have been the case. Residential and nonresidential fixed investment would also suffer. Real nonresidential investment would fall 0.3 percent in 1986 (or $1.5 billion) and 0.7 percent in 1987 (or $3.7 billion). Real residential investment would fall by similar percentages.

Lower Investment Means Fewer Jobs Created. Lower investment means that fewer private-sector jobs are created. As a result, the oil import tax would cause civilian employment to fall by 0.1 percent and 0.3 percent in 1986 and 1987, respectively, compared to what would have been the case without the added tax. This implies a cumulative loss of 400,000 jobs in 1986 and 1987. The civilian unemployment rate would be 0.1 percentage point higher in 1986 and 0.2 percentage point higher in 1987. (See Figure 4.)

A new tax would reduce the size of the National Income Accounts (NIA) deficit. However, the dynamic reduction ($17.9 billion over the two years) is $3 billion less than the static revenue estimate ($20.9 billion over the two years). The deficit is not reduced as much as expected because lower levels of economic activity and higher unemployment raise federal expenditures and lower receipts. On the other hand, the increase in inflation that would result from the tax would offset part of the reduction in government receipts that would occur due to lower levels of economic activity.

(3) Additional Arguments Against an Oil Import Tax

In addition to the serious negative economic impact an oil import tax would have on the economy, an oil import tax should be opposed for the following important reasons:

--An oil import tax is not consistent with the U.S. policy of free trade. A sizeable portion of U.S. oil imports comes from neighbors and allies, such as Mexico, Canada, and the United Kingdom. A fee would harm them and might encourage retaliatory action.

--An oil import tax would lead to higher prices for all forms of energy: natural gas, coal, and electricity. The price of domestically produced oil would be bid up to the price of imported oil, including the fee, and the prices of other energy sources also would rise.

--An oil import tax would mean higher energy prices, which would increase domestic manufacturing costs, making it even more difficult for U.S. industries to compete overseas and at home. Foreign producers would retain their lower energy costs and be able to undercut American goods in the U.S. market. American exports would suffer and imports surge. Industries especially affected by an oil import tax would be basic metals, metalworking, machinery manufacturing, chemicals, agriculture, motor vehicles, and transportation.

--An oil import tax is regressive and would most severely penalize middle- and low-income consumers who spend a greater percentage of their income on transportation, food, utility bills, and other necessities.

--An oil import tax discriminates against regions of the country where automobiles are a necessity of life and where fuel oil is the prime source of home heating fuel.

--Foreign countries, some refiners, and certain consumer groups will undoubtedly seek exemptions from the tax. Such exemptions would lead to new bureaucratic entitlement programs that would offset much of the revenue the tax was supposed to raise.

--Consumers who suffered the skyrocketing energy prices during the 1970s as a result of excessive costs of cartel-controlled prices should not be required to support the price of domestic oil and indirectly other fuels for the benefit of a handful of those who benefited during the 1970s.

Conclusion

The Chamber believes that, while actions to protect the economy and national security against an overdependence on foreign-produced energy could warrant federal intervention in the marketplace, such intrusion is not warranted at this time and would be counterproductive to the economy. In addition, we believe that if and when a time arises that national security is threatened, an oil import fee would not be the appropriate solution.

Attempts to solve the budget deficit by requiring Americans to pay more taxes also are unwarranted. Instead, we urge Congress to work to reduce the growth in federal spending.

Table 1

ECONOMIC IMPACT OF A $10 PER BARREL DROP IN THE PRICE OF IMPORTED OIL

(Percentage difference from base unless otherwise indicated.)

	1986	1987
GNP	0.5	0.8
Real GNP	0.8	1.6
Consumption	0.8	1.4
Nonresidental Investment	1.3	3.0
Residential Investment	2.1	4.1
Civilian Employment	0.4	0.9
Consumer Prices (1)	-1.1	-0.3
Implicit GNP Deflator (1)	-0.4	-0.4
3-Month Treasury-Bill Rate (2)	-30.0	-20.0
Corporate Bond Rate (2)	-10.0	-20.0

Note: The base simulation is the current Laurence H. Meyer and Associates (LHM&A) forecast (BASE601). The price of OPEC oil is $20 per barrel in both 1986 and 1987. The alternative simulation assumes that OPEC oil averages $10 per barrel in both 1986 and 1987.

(1) Percentage point difference.
(2) Basis point difference.

Source: U.S. Chamber of Commerce, Forecasting Section, using the Washington University (LHM&A) model of the U.S. economy.

February, 1986

Table 2

ECONOMIC IMPACT OF A $5 PER BARREL OIL IMPORT FEE

(Percentage difference from base unless otherwise indicated.)

	1986	1987
Real GNP	-0.2	-0.5
Consumption	-0.2	-0.4
Nonresidental Investment	-0.3	-0.7
Residential Investment	-0.4	-0.7
Civilian Employment	-0.1	-0.3
Civilian Unemployment Rate (1)	+0.1	+0.2
Consumer Prices (1)	+0.6	+0.2
Implicit GNP Deflator (1)	+0.5	+0.2

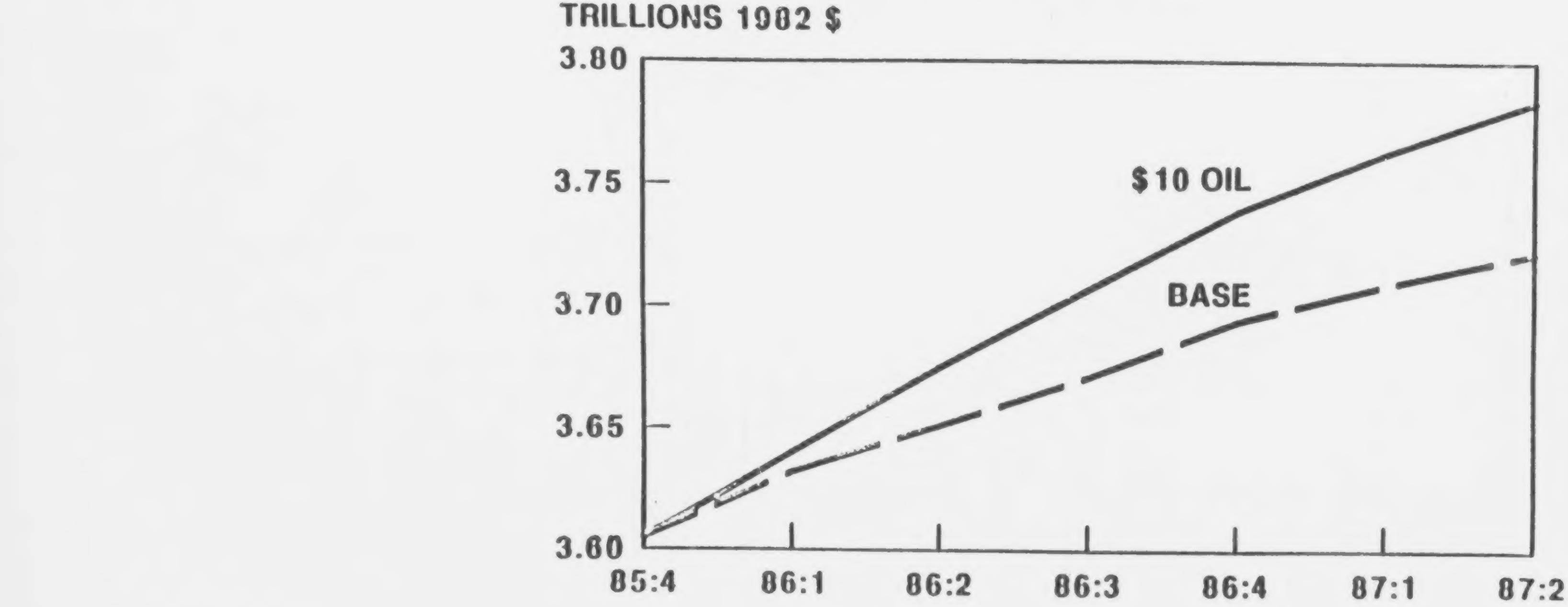
(1) Percentage point difference.

Source: Laurence H. Meyer and Associates, from a special analysis prepared for LHM&A clients.

February, 1986

Figure 1

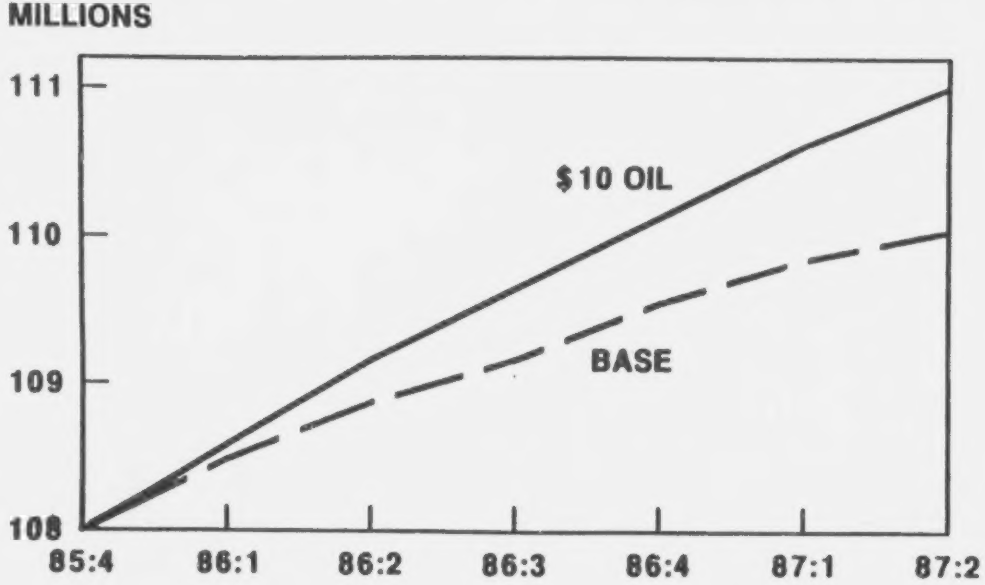
IMPACT OF A $10 PER BARREL DROP IN OIL PRICES ON REAL GNP



Source: U.S. Chamber of Commerce
February, 1986

Figure 2

IMPACT OF A $10 PER BARREL DROP IN OIL PRICES ON CIVILIAN EMPLOYMENT



Source: U.S. Chamber of Commerce
February, 1986

Figure 3

IMPACT OF A $5 PER BARREL
IMPORT FEE ON GNP
BILLIONS 82$

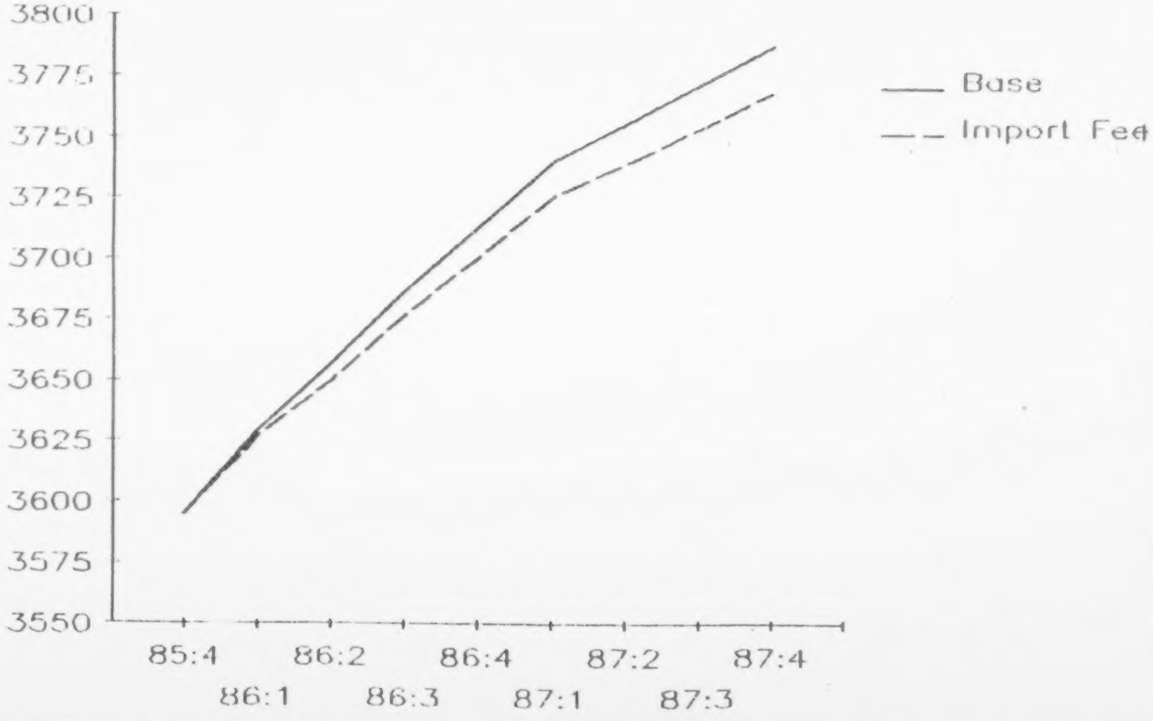
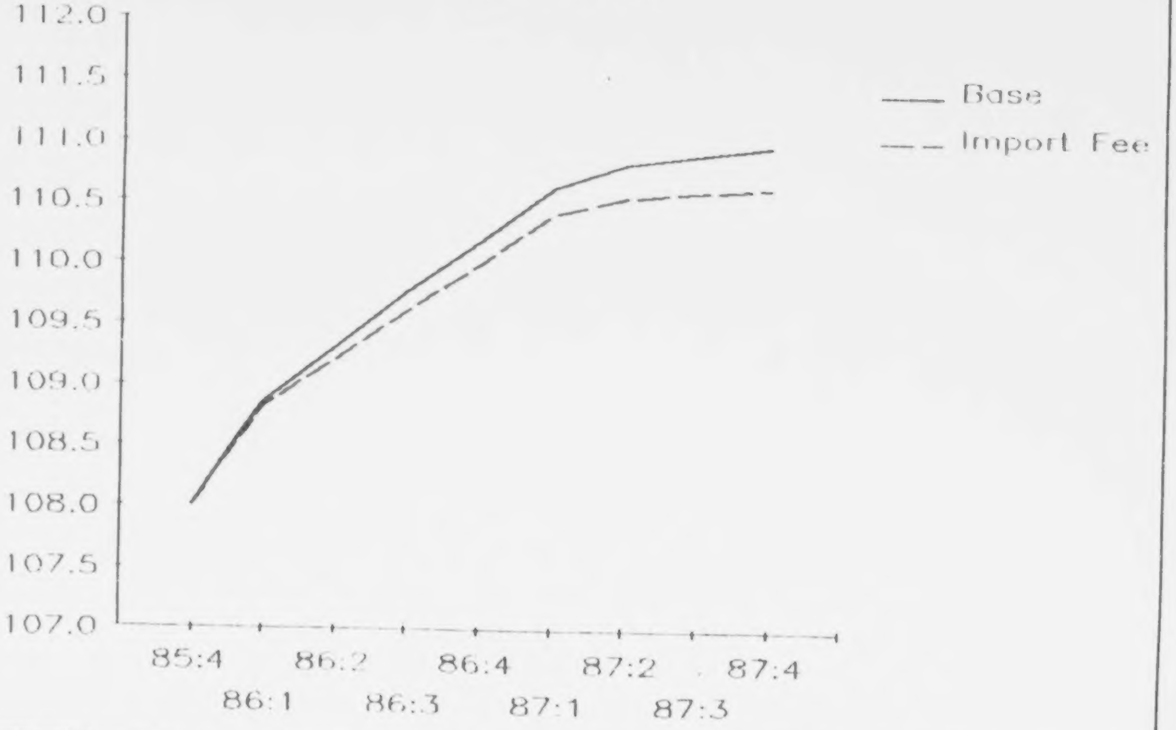


Figure 4

IMPACT OF A $5 PER BARREL
IMPORT FEE ON EMPLOYMENT
MILLIONS



Senator **Metzenbaum**. Ms. Moya, let me ask you a question. You mentioned the IEA, and that brought to my mind that fact that in certain circumstances if there is a worldwide shortage of oil that the United States could be forced to give up, I think under some circumstances, 7 percent of their oil, I think under other circumstances even more than that.

I have raised that issue on a number of occasions. The U.S. Chamber has not addressed itself to the issue. I think it is maybe as major a group as any in the whole country that would be adversely affected by that. Are you familiar with the problem?

Ms. **Moya**. I am familiar that under the agreements of IEA we would have to share our oil with our allies or the other members of the IEA. I did not know what percentage it is.

Senator **Metzenbaum**. May I just ask you, rather than press you to respond, to look into the IEA obligations. I think they are a total absurdity on the part of our country. I think we ought to get out of the IEA. I don't think it serves any useful purpose, at least that portion of it. It is another instance where Uncle Sam is Mr. Daddy Do-Good, and is taken advantage of by the other nations who, as I see it, give up absolutely nothing. Absolutely nothing. I think we should never have—I don't believe we should be in the IEA, but I have no objection if we are in it for the purpose of sharing information. I strongly object to being in it and requiring ourselves to give up oil to allies who in so many instances have recently been turning their backs on us. And I would like to ask you to respond to me as to whether the Chamber would support some effort on the part of some of us to get us out of the IEA or at least that portion.

Ms. **Moya**. Senator, I would have to provide such information for the record. I would think that this would fall under the jurisdiction of our international trade department, and I don't have expertise over that. But I would certainly take your concerns back and report back to you.

Senator **Metzenbaum**. Fine. I certainly don't mean to jump jurisdictions with you at your office, but I would like to hear from the Chamber.

Ms. **Moya**. Certainly.

Senator **Metzenbaum**. Our next witness is Mr. Richard Fillman, Director of Corporate Energy Affairs at Bethlehem Steel Corporation.

And I might say, Mr. Fillman, that in my opening statement I made it very clear that I have great concerns about the strength and viability of the steel industry as well as the oil industry, but this movement that is proposed by Senator Bentsen I think might accelerate the problems of the steel industry.

Please proceed.

STATEMENT OF RICHARD L. FILLMAN, DIRECTOR, CORPORATE ENERGY AFFAIRS, BETHLEHEM STEEL CORP.

Mr. **Fillman**. Thank you. I sincerely appreciate this opportunity to testify before your subcommittee on Senate bill 694.

Bethlehem is a member of the industrial oil consumers group, and I am immediate past chairman of the American Iron and Steel Institute committee on energy. I will be discussing the impact of S.

694, the Energy Security Act of 1987, on Bethlehem in particular and on steel and other manufacturing industries overall.

My options are presently being considered to deal with the problems confronting our domestic oil industry but one which had the most severe economic impact on industrial consumers is the imposition of an oil import fee to raise the price of crude oil.

While the current version of S. 694 as added to the Omnibus Trade Bill does not specifically impose an oil import fee, the arbitrary trigger provision would readily force the executive branch to impose such a fee. Such fees have previously been imposed under section 232 of the Trade Expansion Act of 1962 which the fact sheet accompanying S. 694 indicates is the reference point for the authority granted the President under the bill.

Let me assure you that from an operating cost standpoint the steel industry would receive a severe jolt from such an oil tax. To define a "severe jolt" more specifically, the imposition, for example, of a $4 per barrel tax would have the following adverse effects on Bethlehem Steel. The additional annual cost of fuel oil for the plant operations would increase by $8 million per year.

In addition, because of the development of a gas spot market, natural gas prices are led by and predictably have followed oil prices. Thus, in recent years the two commodities trade closely on a very short-term basis. Our analysis show that a $4 per barrel increase in oil leads to at least a $3 per barrel equivalent increase in natural gas prices. The increased costs of our gas, because of increased oil prices, is expected to exceed $22 million annually.

Thus, the oil import fee, because of its impact on both gas and oil, would cost Bethlehem Steel a total of $30 million per year. Applying these increases across the industry, of which Bethlehem represents approximately 13 percent of the Nation's production, a $4 a barrel tax would increase operating costs by $230 million per year for the industry as a whole. This analysis is confirmed by LTV and Armco who have estimated that the cost increase imposed on them by a $4 a barrel tax would be $38 million and $16 million a year respectively. The steel industry can ill-afford such increased energy costs given the severe financial position of most companies.

Because natural gas and fuel oil have become markedly competitive at the burner tip for all of our plants, mechanism such as flex rates for natural gas and electric power have been put into effect by local distribution companies. Tinkering with the price structure of one single energy source such as fuel oil puts into motion a whole complex linked price structure that not only results in false market signals but also causes confusion for all those who rely on energy as one of their basic raw materials. The ultimate ramification of an oil tax and the total increase of cost of manufacturing for all U.S. industries are difficult to predict. But judging from how the steel industry would be affected, they would be significant.

And equally disturbing aspect of S. 694 is the specter under section 5(a)(2)(B) of the mandatory energy conservation practices being imposed on industry. The degree of conservation being practiced in the steel plants is constantly changing with the cost of energy, which determines the rate of return, and with cost and availability of capital. Some processes are so complex, have so many apparent savings possibilities and are so sensitive to even the slightest engineering change in physical dimensions, that an outside entity such as a government agency cannot help but create problems in product quality and operating costs by determining what form of energy is to be used and how much is to be saved.

Well-intended schemes crafted in Washington, which often make no economic sense, are not able to successfully enforce a conservation ethic on industry. The competitive pressures on American manufacturers already demand stringent cost-cutting measures with respect to all operations. Mandatory conservation requirements should be deleted from the bill.

Instead of policies to increase fuel costs to consumers, our energy policies should encourage access to energy supplies. We strongly support legislative provisions for open access transportation of gas and for wheeling of electric power directly to our facilities. It is these sorts of proposals for competition rather than artificial price increases or bureaucratic interferences in our business under the guise of conservation that will preserve the manufacturing base so essential to our national security and assist our ability to compete in the international marketplace.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Fillman follows:]

Bethlehem Steel Corporation

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FEDERAL GOVERNMENT AFFAIRS DIVISION
PUBLIC AFFAIRS DEPARTMENT

TESTIMONY OF

RICHARD L. FILLMAN
DIRECTOR, CORPORATE ENERGY AFFAIRS
BETHLEHEM STEEL CORPORATION

BEFORE THE

SUBCOMMITTEE ON ENERGY REGULATION & CONSERVATION
COMMITTEE ON ENERGY & NATURAL RESOURCES
UNITED STATES SENATE

June 2, 1987

TESTIMONY OF RICHARD L. FILLMAN
BETHLEHEM STEEL CORPORATION
BEFORE THE
SUBCOMMITTEE ON ENERGY REGULATION & CONSERVATION
SENATE COMMITTEE ON ENERGY & NATURAL RESOURCES

My name is Richard Fillman, and I am Director of Corporate Energy Affairs for Bethlehem Steel Corporation in Bethlehem, Pennsylvania. I sincerely appreciate this opportunity to testify before your Subcommittee on Senate Bill 694. Bethlehem is a member of the Industrial Oil Consumers Group, and I am immediate past Chairman of the American Iron and Steel Institute's Committee on Energy. I will be discussing the impact of S.694, the Energy Security Act of 1987, on Bethlehem in particular, and on steel and other manufacturing industries overall.

Many options are presently being considered to deal with the problems confronting our domestic oil industry, but one which would have the most severe economic impacts on industrial consumers is the imposition of an oil import fee to raise the price of crude oil.

While the current version of S.694 as added to the Omnibus Trade Bill (S.490) does not specifically impose an oil import fee, the arbitrary trigger provision could readily force the Executive Branch to impose such a fee. Such fees have previously been imposed under Section 232 of the Trade Expansion Act of 1962 which the Fact Sheet accompanying S.694 indicates is the reference point for the authority granted the President under the Bill.

Let me assure you that, from an operating cost standpoint, the steel industry would receive a severe jolt from such an oil tax. To define a "severe jolt" more specifically, the imposition of, for example, a $4.00 per barrel tax would have the following adverse effects on Bethlehem Steel:

1. The additional annual cost of fuel oil for plant operations would increase by $8 million per year.
2. In addition, because of the development of a gas spot market, natural gas prices are led by and predictably have followed oil prices to the extent that, in recent years, the two commodities trade closely on a very short term basis. Our analysis shows that a $4.00 per barrel increase in oil leads to at least a $3.00 per barrel equivalent increase in natural gas prices. The increased cost of our gas because of increased oil prices is expected to exceed $22 million annually.

Thus the oil import fee, because of its impact on both gas and oil, would cost Bethlehem Steel a total of $30 million per year. Applying these increases across the steel industry, of which Bethlehem represents approximately 13 per cent of the nation's production, a $4.00 per barrel tax would increase operating costs by $230 million per year for the industry as a whole. This analysis is confirmed by LTV and Armco who have estimated that the cost increase imposed on them by a $4.00/barrel tax would be $38.4 million and $16 million per year respectively.

The steel industry can ill afford such increased energy costs, given the severe financial position of most companies.

Because natural gas and fuel oil have become markedly competitive at the burner tip for all our plants, mechanisms such as flex rates for natural gas and electric power have been put into effect by local distribution companies. Tinkering with the price structure of one single energy source, such as fuel oil, puts into motion a whole complex, linked price structure. That not only results in false market signals, but also causes confusion for all those who rely on energy as one of their basic raw materials. The ultimate ramifications of an oil tax and the total increased cost of manufacturing for all U.S. industry are difficult to predict, but judging from how the steel industry will be affected, they will be significant.

An equally disturbing aspect of S.694 is the specter, under Section 5(a)(2)(B), of mandatory energy conservation practices being imposed on industry. The degree of conservation being practiced in steel plants is constantly changing with the cost of energy, (which determines the rate of return), and with the cost and availability of capital. Some processes are so complex, have so many apparent saving possibilities, and are so sensitive to even the slightest engineering change in physical dimensions, that an outside entity such as a government agency, cannot help but create problems in product quality and operating costs by determining what form of energy is to be used and how much is to be saved. Well intended schemes crafted in Washington, which often make no economic sense, are not able to successfully enforce a conservation ethic on industry. The competitive pressures on American manufacturers already demand stringent cost cutting measures with respect to all our operations. Mandatory energy conservation requirements should be deleted from the bill.

Instead of policies to increase fuel costs to consumers, our energy policies should encourage access to energy supplies. We strongly support legislative provisions for open access transportation of natural gas and for wheeling of electric power directly to our facilities. It is these sort of proposals for competition, rather than artificial price increases or bureaucratic interference in our businesses under the guise of conservation, that will preserve the manufacturing base so essential to our national security and assist our ability to compete in the international marketplace.

Senator EVANS. Thank you very much.

Next Jerome Link from Celanese International Marketing.

STATEMENT OF JEROME E. LINK, VICE PRESIDENT, CELANESE INTERNATIONAL MARKETING CO., INC., ACCOMPANIED BY PAUL HOLDORF, VICE PRESIDENT AND GENERAL COUNSEL, CELANESE CHEMICAL CO., INC., DALLAS, TX

Mr. LINK. Thank you, Mr. Chairman. I am Vice President of Celanese International Marketing Company, and I am testifying today on behalf of two organizations: the Coalition to Oppose Energy Taxes, which consists of 11 petrochemical and chemical companies; and the Petrochemical Energy Group, which contains 7 companies with production facilities mainly in the eastern and southern states. I am accompanied by Paul Holdorf, Vice President and General Counsel, Celanese Chemical Company from Dallas, Texas.

We very much appreciate the opportunity to appear before the subcommittee today and to explain why the petrochemical industry is strongly opposed to S. 694. We have submitted a written statement for the record, and we will briefly summarize the major points.

Mr. Chairman, the current version of S. 694 as it has been added to the trade bill would not require the use of any particular method for reducing oil imports if they are projected to exceed the 50 percent level. However, as a practical matter, we are convinced that there would be only two realistic choices, a quota on oil imports or an oil import fee. Either of these alternatives would have serious adverse consequences for the U.S. industries. But the impact would be particularly severe for the U.S. petrochemical companies.

I would like to explain why this is such a serious problem for the petrochemical industry. Basic petrochemicals are made from oil and natural gas and their derivatives which are used as raw materials in the manufacturing process. Also the manufacturing process itself consumes relatively large amounts of energy. As an example, for a basic petrochemical such as ethylene feed stock and energy costs run about 75 to 85 percent of total production costs. The problem then is extreme vulnerability to any increase in the price of imported crude oil which would be transformed into higher prices for domestic crude and higher prices for natural gas and the various feed stocks used by our industry. The result would be sharp increases in production costs.

If an oil import fee were to be imposed, higher production costs for petrochemicals would be incurred by the U.S. companies, but not by foreign manufacturers who compete with us in both our domestic and foreign markets. The competition is intense both here in this country and overseas. There is no doubt that an oil import fee of any significant size such as $5 per barrel would produce a devastating competitive disadvantage for domestic producers. That would be particularly unfortunate because the American petrochemical industry presently contributes to a positive trade balance.

Mr. Chairman, we are not alone in arriving at our conclusion that an oil import fee would seriously undermine the competitive position of the U.S. petrochemical industry. We are joined by the

National Petroleum Council and the Congressional Research Services and by a study performed last year at Harvard University which concluded that an import fee would virtually eliminate our industry. These are studies that are described in detail in the written testimony.

There is another basic point that I would like to emphasize, and that is this. The adverse impact of an oil import fee extends far beyond the U.S. petrochemical industry. It reaches across the whole of the U.S. economy in the form of higher unemployment, higher inflation and a lower GNP.

The Department of Energy in its recent report on energy security concluded that the net loss to the economy from enacting a $10 per barrel oil import fee would be between $100 billion and $200 billion over the eight years ending in 1995. The overall impact—economic costs of the oil import fee has been outlined in a number recent studies which are cited in the written testimony. These studies all point to one conclusion: the total cost of an import fee outweighs its benefits.

Finally, Mr. Chairman, I would like to make the observation that S. 694 attempts to define our energy security in very limited terms, in terms of a 50 percent limitation on crude oil imports as a percentage of our domestic consumption. Certainly maintaining our energy security involves much more than limiting our crude oil imports. The debate on the energy security issue must be comprehensive and it should not start with the premise that an easy solution lies in an oil import fee.

In conclusion the bill would inevitably increase the domestic price for oil and related petroleum products above normal internationally traded prices for the U.S. market. As a result, it would be destructive to the United States. It would harm U.S. industries' competitiveness. It would worsen the already disastrous international trade balance. And finally, it would transfer jobs away from U.S. workers to foreign labor.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Link follows:]

Testimony of

THE COALITION TO OPPOSE ENERGY TAXES
AND
THE PETROCHEMICAL ENERGY GROUP

HEARING ON IMPLICATIONS OF S. 694

Before the

SUBCOMMITTEE ON ENERGY REGULATION AND CONSERVATION

COMMITTEE ON ENERGY AND NATURAL RESOURCES

U.S. SENATE

June 2, 1987

SUBCOMMITTEE ON ENERGY REGULATION AND CONSERVATION
COMMITTEE ON ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE

TESTIMONY OF

THE COALITION TO OPPOSE ENERGY TAXES
AND
THE PETROCHEMICAL ENERGY GROUP

I am Jerome E. Link, Vice President, Celanese International Marketing Co., Inc., accompanied by Paul S. Holdorf, Vice President and General Counsel, Celanese Chemical Company, Dallas, Texas. Together we cover petrochemicals from their inception in our plants in Pampa, Corpus Christi, and Bay City, Texas, through our facilities in North Carolina for man-made fibers, made with petrochemicals, for the domestic and foreign trade.

Today we represent the Coalition to Oppose Energy Taxes [1] and the Petrochemical Energy Group.

We appreciate the opportunity to be heard on S. 694. It is our concern, our fear, and our expectation that the enactment of S. 694 or a permutation thereof will lead to the imposition of an oil import fee, tax, tariff, or quota. We cannot take comfort from the views of some who indicate that an oil import tax is only one of several options that might be invoked, since the enactment of such a bill would inferentially, if not directly, indicate that an oil import tax is an acceptable option to be considered equally with other options. In our view, an oil import tax imposes more harm than good, and should not be considered a viable option.

While the harm would be visited on substantial portions of industries in the country, it would be particularly severe on the petrochemical industry. We will review this harm in detail below, but for introductory purposes we call to your attention the conclusion of the Broadman and Hogan study. The study advocates an oil import fee. It states that a result of the fee would be the elimination of the American petrochemical industry. 2/ With this introduction, allow us to review why an oil import tax should not be considered a viable option.

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[1] Air Products and Chemicals, Inc., Borg-Warner Chemicals, Dow Chemical U.S.A., E. I. Du Pont de Nemours & Co., The Goodyear Tire & Rubber Co., Hercules Incorporated, Hoechst Celanese Corporation, Rohm and Haas Company, Texas Eastman Company, Division of Eastman Kodak Co., Union Carbide Corporation and U.S. Industrial Chemicals Co.

AN OIL IMPORT TAX IS NOT A GOOD PUBLIC POLICY

All of us are convinced that an oil import fee, quota, tariff or tax (herein sometimes called "tax" for convenience) should not ever again be imposed on the American people. Such an import tax will not benefit the consumer, American industry in general, nor the oil industry, in particular, over the long run. To the contrary, whatever temporary benefits that might accrue to certain segments of the oil industry would be more than offset by immediate losses in other sectors of the economy, particularly among those who would be put out of work.

The Adverse Impact on the Petrochemical Industry

One such sector of the American economy that would be adversely impacted is the petrochemical industry and its downstream customers. The chain of petrochemicals starts, to a significant degree, in Texas and Louisiana as oil and natural gas, in various stages of separation and refinement as feedstocks as well as fuels. The feedstocks are converted into basic materials that are, in turn, processed and reprocessed as petrochemicals, which find their way into the plastics industry nationwide, the automobile industry, the tire industry, the textile industry, to farmers in the form of fertilizers and pest controls, to medical and health care services in the form of pharmaceuticals and artificial organs, and to consumers in hundreds of household conveniences and necessities. In fact, a study done for the Petrochemical Energy Group by Arthur D. Little found that almost 31% of American industry was either petrochemical or dependent on the petrochemical industry. 3/

Petrochemicals and petrochemical products are manufactured here and abroad. American petrochemicals presently contribute positively to the balance of payments. 4/ We must be competitive at home and abroad without

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2/ Oil Tariff Policy in an Uncertain Market, H. G. Broadman and W.W. Hogan, No. E-86-11, JFK School of Government, Harvard (November 1986).

3/ 1983 Petrochemical Industry Profile, Arthur D. Little, Inc. (September 1, 1984).

4/ CMA News, at 4 (February 1986).

the distortions in our costs that would be caused by a tax, fee or quota that drives the prices of our feedstocks and fuels above the world market price. For basic petrochemicals such as ethylene, feedstock and energy costs run about 75 to 85 percent of total production costs. 5/

What would an oil import fee do to the American petrochemical industry? Again, if you believe the Broadman and Hogan study, the petrochemical industry in the United States would be eliminated by an oil import fee or tax. 6/ Other reports, discussed below, substantiate harm to basic industries, including petrochemical concerns, hopefully less drastic than the prediction of Broadman and Hogan.

While we find this prospect distressing, we would not expect that the public policy of the United States would be made on the basis of either help or harm to a single industry, be it petrochemical or oil or any other industry. Therefore, may we suggest reasons why public policy considerations weigh heavily against invoking the option of an oil import tax, quota, or fee.

1. THE COMPETITIVENESS OF AMERICAN INDUSTRY WILL BE HARMED. An oil import tax has been projected to drive the price of all oil in the United States significantly above the price of oil in the world market, thus rendering domestic industry less competitive in both world and domestic markets. American industries and their employees will thus lose, not only exports, but will lose markets to imports of goods from abroad.

a. Perhaps the strongest advocate of an oil import fee is the Broadman and Hogan study. But, as this study says, the objective of a tariff on imported oil is to cause U.S. consumers to pay a higher price for all oil than the rest of the world. 7/ A necessary result of this is "a loss of competitive position for the United States." 8/

b. As the prestigious National Petroleum Council reported in February of 1987--in a report that did not advocate an oil import fee--one of the many noted disadvantages of an oil import fee is "[m]any key U.S. industries

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5/ An Investigaton of the Impact of Energy Taxes on the Economy, Data Resources, Inc. (March 12, 1986).

6/ Oil Tariff Policy, supra note 2, at 48-49.

7/ Id. at 7, 17-18.

8/ Id. at 48.

dependent on oil and natural gas, e.g., agriculture and petrochemicals, would be competitively disadvantaged in domestic and foreign markets." 9/

c. As the DOE's recent study says, "[b]y stemming worldwide oil demand, an oil fee would make oil cost less in global markets--at the same time it was raising prices U.S. energy buyers had to pay for it. Thus, higher oil prices in this country because of the fee would doubly handicap U.S. businesses in both foreign and domestic markets." 10/

d. As the report of the Congressional Research Service says:

> [A]n oil import tax initially would tend to worsen the competitive position of certain U.S. industries. Energy costs of domestic energy-intensive industries--such as petrochemicals, paper, and primary metals--would tend to increase, while relatively lower oil prices abroad would lower production costs of competing foreign industries. Initially, a higher general price level in the United States ... would raise production costs for other U.S. industries as well. 11/

The report goes on to offer hope that eventually there would be some offset by bringing down the exchange rate of the dollar. (This point will be revisited in the section dealing with the deficit.) This section of the report concludes, however, "[t]he net effect would vary among industries, depending to a considerable extent on energy intensiveness." 12/ The hope earlier offered is thus diminished.

e. As the Congressional Budget Office says, the imposition of a fee would result in higher prices for oil in

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9/ Factors Affecting U.S. Oil & Gas Outlook, A Report of the National Petroleum Council, at 173 (February 1987).

10/ Energy Security, A Report To The President Of The United States, United States Department of Energy, App. D-1 (March 1987).

11/ Oil Import Tax: Some General Economic Effects, Congressional Research Service Report for Congress No. 87-259-E, The Library of Congress, at 7 (March 26, 1987).

12/ Id.

the United States than abroad, and foreign suppliers would face a lower world oil price as a result of this tax. 13/

We are here to validate the conclusions of these studies with respect to the petrochemical industry in this country, as we reviewed above.

2. AMERICAN JOBS WILL BE LOST. Hand-in-hand with the loss of competitiveness by American industry is the loss of jobs caused by an oil import fee.

a. The respected Data Resources, Inc., in an 1987 study, estimates that a $5 per barrel import fee beginning in 1987 would result in a decrease of employment of 418,000 persons by 1988, rising to 897,000 persons by 1989, then to 989,000 persons by 1990, before "declining" to only 858,000 persons by 1991. 14/

b. By comparison, the National Petroleum Council Report estimates that an import fee "would restore a portion of the 229,000 jobs lost in that [oil industry] sector from 1982 to December 1986." 15/

c. As the DOE Energy Security report estimates in the section titled "Lower Total Employment Nationwide,"

> Higher domestic oil prices following an oil import fee would boost employment in the oil industry, but overall employment would decline.
>
> Employment in the oil industry and related sectors could increase by 120,000 jobs. However, reduced GNP due to higher oil prices and less efficient investment could reduce nationwide employment by 400,000 jobs. On balance, an oil import fee and the resulting increases in energy prices would reduce U.S. employment. 16/

13/ Reducing the Deficit: Spending and Revenue Options, A Report to the Senate and House Committees on the Budget--Part II, 1987 Annual Report of the Congressional Budget Office, (January 1987).

14/ Energy Taxes: Still Not a Good Idea, Review of the U.S. Economy, Data Resources, Inc. (March 1987).

15/ Factors Affecting U.S. Oil & Gas Outlook, supra note 9, at 172.

16/ Energy Security, supra note 10, at App. D-5.

d. The Broadman and Hogan study apparently does not attempt to quantify the cost to people in the form of loss of jobs. The study advises that "[t]he adjustment of consuming industries could lead to transition costs in the form of (unwanted) unemployment...." 17/ but concludes on the basis of "the usual heroic assumption" that workers will find other jobs quickly and thus the transition costs are modest compared to the long-term benefits of a tariff. 18/

In sum, with respect to employment, the harm may be expected to outweigh the benefits.

3. EFFECT ON THE ECONOMY, ON INFLATION, AND ON THE DEFICIT.

Perhaps the poles of the debate are best expressed in the Report of the National Petroleum Council. With respect to an oil import fee, the Report states, alternatively,

> "An oil import fee would raise significant revenue for the federal government. This revenue would come from the fee on foreign imports, increased income taxes from domestic producers, and increased federal royalties. In addition, increased state income and severance taxes could be generated."
>
> And
>
> An import fee would have an immediate impact by raising the inflation rate and reducing GNP. This reduction in activity would cause a decline in corporate and individual income taxes collected from non-energy companies and their employees. This could ultimately offset the increase in taxes collected from the oil industry. 19/

Another approach to the poles of the problem is that of the Congressional Research Service:

> An oil import tax would reduce the Federal Government budget deficit by less than a naive calculation would indicate. Lower economic

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17/ Oil Tariff Policy, supra note 2, at 51.

18/ Id. at 52.

19/ Factors Affecting U.S. Oil & Gas Outlook, supra note 9, at 172.

> activity would cut government tax revenues; and higher prices would increase transfer payments with cost-of-living adjustments and Government outlays for supplies. Higher prices would also raise Government receipts--by more than the outlays are boosted, but not enough to offset the effect of lower GNP. The extent of the 'shortfall' depends to a great extent upon the assumptions. DRI's analysis resulted in an eventual increase of the Federal deficit, (footnote omitted) whereas a Congressional Budget Office analysis (of 1986) shows a net decrease in the deficit for a roughly comparable oil import tax and roughly comparable price assumptions (footnote omitted, citing an April 1986 study.) 20/

The 1987 Report of the CBO indicates that a $5 a barrel import fee would add revenues of $8.1 billion in 1988 net of changes in other taxes but notes "Induced outlay effects are not estimated." 21/

The DOE's Report to the President indicates that "[u]nder a variety of alternate assumptions, total import fee benefits range from $50 to $70 billion, compared to a range of estimated costs from $190 to $250 billion over 8 years. Thus, the net loss to the economy from enacting an oil import fee is between $150 and $200 billion over the 8 years ending in 1995." 22/

A Federal Trade Commission report finds that a $5 tariff would cost consumers $2 for every dollar of revenue raised. 23/

20/ Oil Import Tax: Some General Economic Effects, supra note 11, at 3. It should be noted that CRS's anticipation of eventual recovery of some of the competitiveness of American industry lost due to an oil import tax is dependent upon there being a smaller budget deficit as a result of the tax revenues.

21/ Reducing the Deficit, supra note 13, at 209.

22/ Energy Security, supra note 10, at App. D-6.

23/ A Critical Evaluation of Petroleum Import Tariffs: Analytical and Historical Perspectives, An Economic Policy Analysis by K. Anderson and M. Metzger, Bureau of Economics Staff Report to the Federal Trade Commission, at xii (April 1987).

And:

> Under either assumption about the effect of U.S. demand on the world price of oil, the U.S. economy on net would suffer substantial losses from a crude oil tariff. If the price of imports is assumed not to change, the estimated net societal cost--or deadweight loss--is $4.2 billion per year. If the import price changes, the annual net cost could come to $8.6 billion. 24/

With this evidence, we are persuaded that the cost of an oil import fee outweighs the benefits.

4. AN OIL IMPORT FEE WILL DEGENERATE INTO PRICE AND ALLOCATION CONTROLS ON AT LEAST OIL.

While we might defer to the expertise of others on the issue above, we defer to no one on the burdens of federal regulation of the price and availability of oil and natural gas.

Price and allocation controls never work. A fee is a tax; a tax here is a form of federal regulation designed to induce certain conduct--reducing imports of oil. A quota is a more direct form of federal regulation. All share the same inevitable fate: they will not last very long in a consistent form. A vast bureaucracy will have to be resurrected at DOE, again to hear pleas for exceptions, exemptions, allocations, and perhaps even entitlements. Foreign governments, through their own channels, will be seeking country or hemisphere exemptions. The regions of the United States or even individual states, through the legislative process, both direct and indirect, will seek regional exemptions and exceptions. This, in turn, leads to prices at different levels for different classes of consumers. To counter this differential, allocation controls are needed to channel the preferred prices to the preferred groups, and, inevitably, this leads to price controls on all oil, including domestic oil.

a. The National Petroleum Council again states the poles of the issue, acknowledging that only a simplistic, no exception, no exemption fee, might avoid a bureaucracy:

> "A simple fee could be imposed using the existing duty payment process administered by the

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24/ *Id*. at viii-ix.

> U.S. Custom Service.... Thus, establishment of a new bureaucracy could be unnecessary."

And:

> "Enactment of a variable fee, or any fee complicated by exemptions, would require establishment of a new bureaucracy. Even a simple fee could require additional bureaucracy to prevent potential evasion." 25/

b. The Broadman and Hogan study, the report we regard as the most favorable to an oil import fee, admits:

> Nevertheless, the possibility of extensive exemptions and exceptions raises a significant problem. Our analysis of the optimal tariff assumes these special appeals will go unheeded (footnote omitted). A large number of exemptions and exceptions or a very small tariff, would result in little gain for the economy as a whole. In that case, the fear of the costs of the impact of such a precedent on broader trade policy might carry the day. The challenge is to implement a tariff without avoiding the economic adjustments that a tariff is intended to achieve. If by assumption this adjustment process is simply too hard in the real world of the politics of special interests, then by assumption the tariff is a bad policy. 26/

Perhaps the best articulation of the more likely result of a fee is found in the Report of the Federal Trade Commission. There the chilling anticipation of a return to the days of pervasive controls over oil is well reviewed. 27/

And the DOE Report to the President recognizes the risk of the return to the controls of the Seventies. 28/

25/ Factors Affecting U.S. Oil & Gas Outlook, supra note 9, at 172-73.

26/ Oil Tariff Policy, supra note 2, at 41.

27/ A Critical Evaluation of Petroleum Import Tariffs, supra note 23, at 17-32.

28/ Energy Security, supra note 10, at App. D-6.

We hold the Broadman and Hogan study to its own conclusion: a tariff under these circumstances is bad policy.

We have consistently, from the early Seventies forward, in the case of the Petrochemical Energy Group, urged the Congress to remove the wellhead price and allocation controls on natural gas and oil, whether the latter was done through the Mandatory Oil Import Program or through the Emergency Petroleum Allocation Act and its progeny, or a combination of the two. We again urge: move toward deregulation, please do not return to the days of price and allocation controls over oil.

In candor, if there is a return to federal regulation in the form of an oil import tax or otherwise, we, in self defense, will be forced to seek mitigation through the process.

5. DOES NATIONAL SECURITY REQUIRE A TAX ON IMPORTED OIL?

We have saved this point until the last for two basic reasons: one, in order to review the consequences that may be expected before turning to this consideration that could outweigh all others and, two, in the hope and confidence that our elected leaders, both the President and the Members of Congress, who have the ultimate responsibility to make this call, will do so based on consideration of all factors, not on the preemptive consideration of just one factor: the level of imports based on a percentage.

It is precisely because we do have every hope and confidence that the correct decision will be made that we urge the rejection of legislation like S. 694.

Before proceeding, we wish to suggest that S. 694 leads to three points that need not be argued.

1. Legislation that permits an oil import fee or quota already exists, so that no new legislation is required in order to provide such an option.

2. Other options must be considered before selecting a single option, such as an oil import fee.

3. Now is the time to consider whether other statutory adjustments should be made to address the problems of the oil industry.

Under S. 694 in its introduced form or as adopted by the Senate Finance Committee, there is a significant change in the law. And here we focus only on the law with respect to oil import quotas or fees.

In its essence, the legislation requires the President to present a policy that shall prevent crude and product imports from exceeding the National Oil Import Ceiling, a ceiling not to exceed 50%, based on estimates three years out by either the President or the Congress.

Let us assume for the purpose of this analysis that this legislation DOES NOT add any new statutory authority for the President. Under this assumption, expressed in S. 694 and implicit in the amendment adopted by the Senate Finance Committee, one "power currently within the law" is an oil import fee or quota pursuant to Section 232 of the Trade Expansion Act. 29/

But Section 232 does not mandate that an oil import fee or quota be imposed at any given level of imports. To the contrary, the statute provides a careful procedure whereby a deliberate investigation is undertaken at the Cabinet level, which may include public participation, if appropriate, and a recommendation is made to the President within one year of its initiation. If the recommendation is that the article in question, here oil and oil products, is being imported into the United States in such quantities or under such circumstances as to threaten to impair the national security, the President is to take such action as he deems necessary to adjust the imports of the article and its derivatives, so that such imports will not threaten to impair the national security, unless the President determines that the article is not being imported into the United States in such quantities or under such circumstances as to threaten to impair the national security.

The decision of the President is then subject to judicial review, as the Supreme Court has held. 30/

With the overlay of S. 694 and its emanations, the effect is (1) to limit the time for any investigation, (2) to change the standard for determining a threat to national security to one of quantity only, rather than the alternative "under such circumstances" that one official of the United States must make in addition to the President,

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29/ 76 Stat. 877, as amended by § 127(d) of the Trade Act of 1974, 88 Stat. 1993, 19 U.S.C. § 1862.

30/ Federal Energy Administration, et al. v. Algonquin SNG, Inc., et al., 426 U.S. 548 (1976).

(3) to compel the President to propose action that goes into effect 90 days after submission to the Congress, and (4) to require that the action taken prevent crude and product imports from exceeding the quantitative limit.

The 50% standard, even as a projection, does not take into consideration WHERE the imports are coming from. Surely it makes some difference whether the imports are from this hemisphere or, say, the Persian gulf, and in what proportion.

Whatever else the bill might do, it clearly changes the discretion vested in the President by Section 232 and clearly changes the procedures set out to insure a careful consideration of such a momentous decision as an oil import fee or quota.

We respectfully suggest that, in practical terms, if the President is required to take action to hold imports to 50% within a maximum three years of lead time, a fee or quota is the most likely device that can achieve that result. Between the two, the quota appears to be the most certain of being effective--if the sole consideration is to limit imports, regardless of any other consequences that flow.

Add this to the conclusion of the National Petroleum Council that, without a fee, the U.S. would reach the 50% dependence level in 1990, 31/ and the result is that S. 694 may be triggerable now.

If not now, then it will be whenever the prediction of the President or of the Congress, apparently to be done annually, reaches the target. That day appears to be inevitable.

If so, why not address the oil industry's problems directly, now. Rather than indirect means of a tax, tariff, fee, or quota to operate to raise the price of domestic oil and thus hopefully stimulate exploration, development, and production, why not address the problem directly and change those laws, tax or otherwise, that, in the opinion of the Congress, either stand in the way of exploration and production or which are needed to encourage exploration, development and production.

We carefully say "oil industry's problems" for these reasons: we want and need a healthy oil industry in

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31/ Factors Affecting U.S. Oil & Gas Outlook, supra note 9, at 172.

this country. We do not need the impetus of a national security issue to recommend consideration of the problems of this important industry. We do not believe that an oil import fee or tax would help the oil industry in the long run; rather we see a more likely return to price and allocation controls, and exemptions and exceptions, that will mask or even eliminate any possible tariff wall that will provide price protection to the oil industry.

Therefore, we would urge the debate on national security to be deliberate and comprehensive, including consideration of the Strategic Petroleum Reserve, without the starting premise that the default case is an oil import fee or tax. And we would urge that a healthy and competitive American industrial and agricultural base is an important component of national security, just as the oil industry is.

CONCLUSION

In sum, we respectfully urge the Congress to reject legislation that will compel, induce, or encourage the imposition of an oil import fee, tax, tariff, or quota.

Senator METZENBAUM. Thank you very much, Mr. Link. And our last witness today is Mr. James R. Wells.

STATEMENT OF JAMES R. WELLS, VICE PRESIDENT, WHALE OIL CORP. OF NEW JERSEY, ON BEHALF OF THE FUEL MERCHANTS ASSOCIATION OF NEW JERSEY, EMPIRE STATE PETROLEUM ASSOCIATION, INDEPENDENT FUEL TERMINAL OPERATORS ASSOCIATION, NEW ENGLAND FUEL INSTITUTE, AND SOCIETY OF INDEPENDENT GASOLINE MARKETERS OF AMERICA

Mr. WELLS. Thank you very much, Mr. Chairman and Senator Evans.

My name is James Wells, and I am Vice President of the Whale Oil Corporation of New Jersey. We are located in Princeton, North Brunswick and Rockaway, all in New Jersey. I am appearing on behalf of a broad coalition of petroleum marketers, six in number, who are described on the cover of my statement.

We are pleased that you are conducting this hearing on S. 694, the Energy Security Act. In our view this legislation is misguided and dangerous energy policy. As we read its language, imposition of import fees or quotas would be the most likely action taken. However, gasoline rationing also could result. Environmentally sensitive areas could be developed or production tax incentives could be adopted, all without congressional approval. This delegation of power is far broader than currently authorized under the Trade Expansion Act.

Our opposition to this bill is based principally on the possible automatic triggering of an oil import fee or quota which would seriously injure our business, our customers and the economy. Heating oil prices have declined steadily since 1982 benefiting our consumers and our regional economy. Oil supply sources have grown steadily more diverse and secure during this period. Consumers are benefiting from this environment, yet they are not significantly increasing their consumption. Government tampering with a minimum price of crude oil will upset this balance. Oil import fees that increase the price of oil will be no more successful or fair than were governmental attempts to regulate the maximum price of oil in the 1970s.

Oil import fees protect the domestic oil and gas producing sector at an enormous cost to the economy. One indication of the economic burden of an oil import fee is its inefficiency as a revenue raiser. The Energy Information Administration estimates that oil import fees would generate only 7 cents in net revenue for every dollar in cost to the economy, an efficiency of only 7 percent. In addition, the EIA projects that a $5 per barrel fee would yield only $3.7 billion in net revenue to the Federal Government over five years.

A major private economic forecaster DRI projects that a $5 oil import fee in effect for five years would slow the economy and increase Federal expenditures so dramatically that it would actually increase the deficit by about $6 billion.

Our detailed views concerning oil import fees are included in recent testimony before the Senate Finance Committee which I would like to insert into the record at the conclusion of my statement.

Senator **Metzenbaum**. Without objection, it will be included.[1]

Mr. **Wells**. Thank you, sir.

However, the potential harm from the Energy Security Act is even greater because the energy policy that could result is both undefined and one dimensional. This bill delegates enormous authority to the President to limit oil imports, yet provides him virtually no discretion in deciding when and how to implement that authority. In effect, it places the government's energy policy on automatic pilot. It abdicates Congress' constitutional role to legislate energy policy.

This bill's absolute requirement that petroleum imports not exceed 50 percent elevates this single factor above all others in establishing national policy. It requires a future President to ignore the economic effects, the environmental impact and the foreign policy implications of his energy policy. If this were not bad enough, it requires him to do so simply because a computer program projects oil imports to exceed 50 percent, not because imports actually exceed this level.

If we have learned anything from world energy markets in the past 15 years, it is that long-term projections are not to be trusted. The use of oil import levels as the sole indicator of vulnerability is an oversimplification. The fundamental question is not what level of dependence is cause for concern but whether the U.S. is vulnerable to supply disruptions. Vulnerability is affected by the sources of our imports, the supply-demand balance in the world oil markets, and the economic impact of an interruption.

Today we are far more able to withstand an interruption in imports than in 1979 and in 1973. The strategic petroleum reserve which currently contains nearly 220 million barrels of oil provides that security and will provide even greater protection in the future.

Furthermore, the sources of our imports are secure. More than 38 percent of oil imports are from Venezuela, Canada and Mexico, and only 19 percent of the U.S. imports, or about 7 percent of petroleum consumption, come from sources in the Middle East.

Senator **Metzenbaum**. Mr. Wells, will you wind up please?

Mr. **Wells**. I thank you very much, sir. Everything else which I am about to say has been stated by others. And I appreciate the opportunity of being able to be heard before you. Thank you.

[The prepared statement of Mr. Wells follows:]

STATEMENT
of

JAMES R. WELLS

Appearing on Behalf of

EMPIRE STATE PETROLEUM ASSOCIATION
FUEL MERCHANTS ASSOCIATION OF NEW JERSEY
INDEPENDENT FUEL TERMINAL OPERATORS ASSOCIATION
NEW ENGLAND FUEL INSTITUTE
SOCIETY OF INDEPENDENT GASOLINE MARKETERS OF AMERICA

on
THE ENERGY SECURITY ACT

before the
UNITED STATES SENATE
COMMITTEE ON ENERGY AND NATURAL RESOURCES
SUBCOMMITTEE ON ENERGY REGULATION AND CONSERVATION

Washington, D.C.
June 2, 1987

Mr. Chairman, my name is James R. Wells. I am Vice President of Whale Oil Corp. of New Jersey, located in Princeton, North Brunswick and Rockaway. I am appearing on behalf of a broad coalition of petroleum product marketers. This coalition includes the Empire State Petroleum Association ("ESPA"), the Independent Fuel Terminal Operators Association ("IFTOA"), and the New England Fuel Institute ("NEFI"), which represent more than 2,000 independent marketers that sell home heating oil and residual fuel to more than 6 million consumers from Maine to Florida; and the Society of Independent Gasoline Marketers of America ("SIGMA"), which represent about 250 private brand retailers that market 10 to 15 percent of the gasoline throughout the United States. None of these companies own any pipelines, refineries or production facilities. We are consumers of petroleum products, and depend totally upon a secure and economic supply.

We are pleased that you are conducting this hearing on S. 694, the Energy Security Act. This bill would establish an automatic mechanism for Presidential action to limit petroleum imports to a pre-determined level. The President could establish this level at any point from 0 to 50 percent, without effective Congressional review. The President would then be required to propose action to prevent the projected level of imports from exceeding this pre-determined threshold. This action would take effect unless Congress enacted a law within 90 days, possibly over a veto, modifying the proposed action. The action would take effect without regard to its impact on the economy, the environment, or foreign policy. These critical factors are not to be considered; the sole criterion for Presidential action is the projected level of imports.

In our view, this legislation is misguided and dangerous energy policy. As we read its language, imposition of import fees or quotas would be the most likely action taken. However, gasoline rationing also could result, environmentally sensitive areas could be developed, or production tax incentives could be adopted -- all without Congressional approval. This delegation of power is far broader than currently authorized under the Trade Expansion Act.1/

Our opposition to this bill is based principally on the possible automatic triggering of an oil import fee or quota, which would seriously injure our businesses, our customers, and the economy.

Heating oil prices have declined steadily since 1982, benefitting our consumers and our regional economy. Oil supply sources have grown steadily more diverse and secure during this period. Consumers are benefitting from this environment, yet they are not significantly increasing their consumption.

Government tampering with the minimum price of crude oil will upset this balance. Oil import fees that increase the price of oil will be no more successful, or fair, than were

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1/ Section 232(b), 19 U.S.C. § 1862(b). The Washington Post and the New York Times have published editorials opposing the broad delegation of power in the Energy Security Act. These editorials are Attachment 1.

governmental attempts to regulate the maximum price of oil in the 1970s.

Oil import fees protect the domestic oil and gas producing sector at an enormous cost to the economy. There is no doubt that oil import fees would impede economic growth; it is estimated that a $10 fee would cause a decline in GNP from 1.0 to 2.6 percent.[2] Equally certain, unemployment would increase, and inflation would increase significantly. The precise magnitude cannot be projected, but the conclusion is clear: an oil import fee will impose a sustantial drag on the U.S. economy.[3]

One indication of the economic burden of an oil import fee is its inefficiency as a revenue raiser. The Energy Information Administration ("EIA") estimates that oil import fees will generate only 7 cents in net revenue for every $1.00 in cost to the economy -- an efficiency of only 7 percent.[4] In addition, EIA projects that a $5.00 per barrel fee would yield only $3.7 billion in net revenue to the federal government over 5 years.

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[2] See Consumer Federation of America, "The Energy, Economic and Tax Effects of Oil Import Fees" (October 25, 1985). For the purposes of macroeconomic analysis, it is irrelevant whether a $10 fee is imposed entirely on crude oil, or partly on crude oil and the remainder on petroleum products. The critical fact is that petroleum product prices would rise by about $10 per barrel, or $.24 per gallon.

[3] Id. See also Department of Energy "Energy Security: A Report to the President on the United States" (March 1987) at App. D, which estimates that a $10 fee would cut GNP by $200 billion between 1988 and 1995.

[4] Energy Information Administration; "The Impact of Lower World Oil Prices and Alternative Energy Tax Proposals on the U.S. Economy" (April 18, 1986).

A major private economic forecaster, Data Resources, Inc. ("DRI"), projects that a $5 oil import fee, in effect for 5 years, would slow the economy and increase federal expenditures so dramatically that it would actually increase the deficit by about $6 billion.[5/]

Crude oil import fees would also create incentives to "drain America first", thus depleting the resources needed for a future emergency. Import fees on petroleum products would be even more costly, impairing the competitive viability of independent petroleum marketers, without any benefit to oil producers. These long-term adverse impacts far outweigh any short-term benefits that such legislation would confer on domstic producers or refiners. Thus, import fees are costly and anticompetitive energy policy.

Our detailed views concerning oil import fees are included in recent testimony before the Senate Finance Committee, which I would like to insert in the record at the conclusion of my statement.

However, the potential harm from the Energy Security Act is even greater because the energy policy that could result is both undefined and one dimensional. The bill delegates enormous authority to the President to limit oil imports, yet provides him virtually no discretion in deciding when and how to implement that authority. In effect, it places the government's energy

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[5/] DRI, Review of the U.S. Economy; "Energy Taxes Still Not a Good Idea" (March 1987). A copy of this Report is Attachment 2.

policy on "automatic pilot". It abdicates Congress' constitutional role to legislate energy policy.

The bill's absolute requirement that petroleum imports not exceed 50 percent elevates this single factor above all otners in establishing national policy. It requires a future President to ignore the economic effects, the environmental impact and the foreign policy implications of his energy policy.

If this were not bad enough, it requires him to do so simply because a computer program projects oil imports to exceed 50 percent, not because imports actually exceed this level. If we have learned anything from world energy markets in the past 15 years, it is that long term projections are not to be trusted.

The use of oil import levels as the sole indicator of vulnerability is an oversimplification. The fundamental question is not what level of dependence is cause for concern, but whether the U.S. is vulnerable to supply disruptions.

Vulnerability is affected by the sources of our imports, the supply/demand balance in world oil markets, and the economic impact of an interruption. Today, we are far more able to withstand an interruption in imports than in 1979 and 1973. The Strategic Petroleum Reserve, which currently contains nearly 520 million barrels of oil, provides that security, and will provide even greater protection in the future. Furthermore, the sources of our imports are secure. More than 38 percent of oil imports are from Venezuela, Canada, and Mexico; only 19 percent of U.S. imports, about 7 percent of petroleum consumption, come from sources in the Middle East.[6] All of these factors must be considered by a President, and by Congress, before implementing mandatory restraints on imports.

We, as marketers, are an integral part of the domestic petroleum industry; we need a strong and thriving domestic industry. We support use of the tax code to guarantee a strong domestic producing and refining sector. In addition, we support substantially increased oil purchasing for the Strategic Petroleum Reserve, both from domestic producers and from Mexico. However, we strongly oppose legislation that would cede energy policy permanently to any future President, who could be forced to take action that is harmful to the American economy, to our consumers, and our businesses, simply because projected levels of imports exceed an arbitrary limit.

Thank you.

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[6] Energy Information Administration, Monthly Energy Review, January 1987.

Attachment 1

A22 Thursday, May 21, 1987

The Washington Post

AN INDEPENDENT NEWSPAPER

Oiling Up the Trade Bill

WOULDN'T IT be ironic if Congress passed a trade bill just as the trade figures, for other reasons, began to improve? There was a little taste of how that might resonate last week when the Commerce Department reported that the trade deficit narrowed to $13.6 billion in March from $15.1 billion the month before. "Good news," the White House quickly declared, while House Speaker Jim Wright was reduced to pointing out that the January figure had been even lower, so that March was no better than "January and February averaged out."

In fact, there are some signs of possible improvement, not so much in these raw monthly figures, which bounce around, but in the steadier quarterly averages adjusted for seasonal fluctuations and inflation. These figures suggest that the decline in the dollar and relative strengths that the dollar reflects have finally had the predicted effect of raising the price and reducing the attractiveness of imports. In the third quarter of last year the value of imports peaked at a seasonally adjusted annual rate of $534.5 billion in 1982 dollars. In the fourth quarter it held steady; in the first quarter of this year it declined to $518.4 billion, roughly back where it stood last April-through-June.

The problem with the trade bills in Congress has always been that they skate on the surface of the problem. The trade balance finally rises or falls not on the nasty practices abroad that the legislation puffs up and attacks, but on the fundamentals of price and demand—which economies are most expansive, what the exchange rates are. The trade bills tend to be crying towels and vehicles for special relief for hurting industries.

Oil provides the most recent example. At the behest of its chairman, Sen. Lloyd Bentsen of Texas, the Senate Finance Committee voted 12 to 8 to include in its bill a requirement that the president project future oil imports each year and, whenever it appears that they might exceed 50 percent of domestic consumption, propose ways to reduce them. His proposals would then take automatic effect in 90 days unless overturned by an act of Congress that he could veto; one-third-plus-one in either house would be all the votes he would need. Among the things that he would have the right to propose, the adopted version of the legislation suggests, are oil import fees and quotas and production incentives, including changes in the tax law. Aides to Mr. Bentsen say that the president already has enormous albeit untested power to take such steps when he finds a national emergency under current law, and that the amendment is being refined to make clear that no new power would be granted him. Others are gearing up to resist.

We hardly imagine that Congress—or Mr. Bentsen—intends to cede a president the taxing power. That's not the point. The trade bill has become the vehicle for settling too many problems that don't derive from the rules of trade.

Attachment 1

THE NEW YORK TIMES, SATURDAY, MAY 30, 1987

The New York Times

Founded in 1851

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Fight Protectionism Now

Poisonous protectionism is spreading in Congress. Practically speaking, the foreign trade bill that the Senate Finance Committee has concocted is hardly distinguishable from the House version. Both ought to provoke urgent opposition. The longer this false flower lives, the more it threatens to intoxicate politicians and public.

Only in one substantial respect does the Senate committee bill improve on the one just passed by the House. It omits the harsh posturing of the amendment sponsored by Representative Richard Gephardt in a misguided attempt to redress the trade deficit. Senate supporters never brought it to a vote in the Finance Committee. They feared defeat and preferred to take it to the full Senate, the same tactic Mr. Gephardt used in the House.

Whether or not this particular amendment survives, other pernicious Senate amendments are in the works. The protectionists' strategy is clear and powerful: Blame foreigners for a trade problem they didn't create . . . Tighten the screws to keep out their products . . . Ignore the fact that curbing trade will hurt American consumers.

The Finance Committee has fertilized the protectionist weed with three particularly objectionable contributions:

☐ *The Senate bill would put authority in the wrong hands.* Effectively, the proposal would let the Government's International Trade Commission decide what tariffs or quotas to impose when an industry is injured by imports, even if foreign competition is fair and square. The President has final say now, as he should. He is best placed to assess the impact of such steps on diplomacy and the economy.

The Gephardt plan, which amends the section of the law dealing with unfair competition, also strips Presidential authority. It virtually orders the President to impose stiff import curbs against countries with allegedly unfair practices and large surpluses in trade with the United States.

☐ *A provision on oil imports would give the President too much authority.* If he foresees that dependence on foreign oil will exceed 50 percent, he would be required to raise taxes on imports or lower them for domestic producers. Congress would effectively abdicate its responsibility for tax law.

☐ *The bill has a foolish mechanism for helping displaced workers.* The assistance program would be worthy, but it would be paid for with a highly questionable tax on almost all imports, thereby inviting retaliation against American exports.

On the positive side, the committee bill would give the Administration six-year authority — the House gives five years — to negotiate with other countries for mutual reduction of trade barriers. That's the right path to healthy growth.

The committee bill will shape the final Senate package, but a half-dozen other committees, and individual senators, are offering amendments. Come summer, a conference committee will meld the Senate and House bills. The Reagan Administration justifiably loathes both. With luck, leadership and effective lobbying, it might induce the conferees to compromise and knock out the worst. But to wait that long is chancy strategy. The time for every conscientious senator to fight is now.

DRI Data Resources

Attachment 2

Review of the U.S. Economy

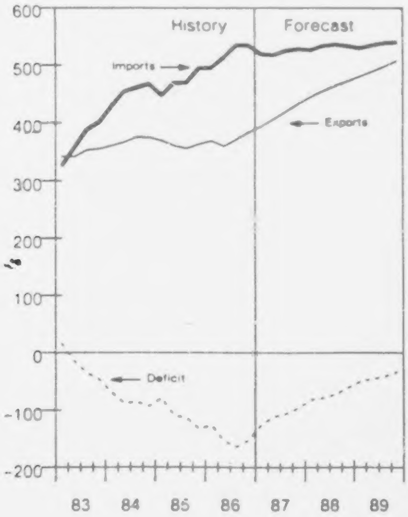
March 1987

Forecast Summary: How Strong Is the Economy?

Is Corporate Debt a Problem?

Energy Taxes: Still Not a Good Idea

Deregulation and the Motor Carrier Industry



The Outlook for Trade
(Billions of dollars, 1982 prices)

ENERGY TAXES: STILL NOT A GOOD IDEA

by Joyce Yanchar and Christopher Caton

Last year's drop in oil prices, along with persistently large federal budget and trade deficits, have once again brought up the issue of energy taxes. The oil price decline makes room for the addition of a tax without pushing energy prices above levels consumers have paid in the recent past. Such taxes, it is argued, have the potential to raise large gross revenues, to encourage energy conservation, to stimulate domestic energy production, and to improve the balance of trade. In actuality, though, they would create an inflationary shock to the system, reducing real income as well as U.S. competitiveness.

We used the DRI Model of the U.S. Economy to assess the effects of two popular versions of the energy tax. In the baseline scenario, TRENDLONG0287, the price of imported oil rises from an average of $16.75 per barrel in 1987 to $18.50 in 1989 and to $22.00 in 1991 (Chart 1). The first alternative simulation, OILFEE0287, imposes a $5 per barrel fee on imported oil, which effectively raises the refiners' acquisition cost for domestic as well as imported crude oil by the same amount. The second alternative, GASTAX0287, raises the federal gasoline and diesel fuel tax by 10 cents per gallon (Chart 2). All motor fuels for consumer use, and approximately 65% for business use, are subject to the higher tax.

Our analyses make several key assumptions. First, nonborrowed reserves are held at their baseline levels; this represents "partially accommodative" monetary policy because it allows the money supply (M1) to expand with the increase in prices, but not enough to keep interest rates from rising. This would be the Fed's likely strategy if it considered the tax a desirable national policy and if it were more concerned with reducing the deficit than with holding down inflation. Second, the alternative simulations assume that the dollar's trade-weighted exchange rate remains near its baseline levels. While higher U.S. inflation would in-

Chart 1
Average Refiners' Acquistion Price of Imported Crude Oil
(Dollars per barrel)

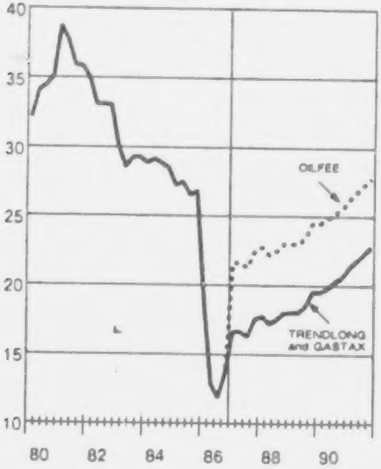
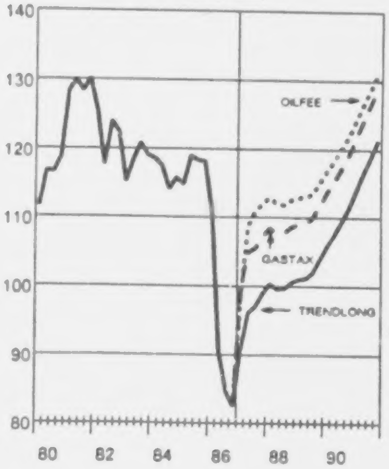


Chart 2
Impact on Motor Fuels Prices Under Alternative Energy Tax Scenarios
(Cents per gallon)



itially reduce the exchange rate, improvements in the trade balance would offset the dollar's depreciation. And third, we assume the oil taxes and the effect they have on U.S. demand are not sufficient to lower world oil prices.

The simulations demonstrate that neither measure is effective as a deficit-closing mechanism. The higher inflation induced by the energy taxes retards economic growth and therefore other tax revenues; at the same time, federal spending rises because of higher transfer payments, interest payments, and prices for goods and services. Indeed, the oil import fee eventually leads to a larger federal budget deficit. Furthermore, while both taxes would reduce oil imports and thus the oil import bill, the reduction is costly in terms of lost domestic output.

THE OIL IMPORT FEE

Given crude oil and petroleum product imports of 2.4 billion barrels in 1987 and 3.1 billion barrels in 1991, an import tax of $5 per barrel (assuming no feedback effects) has the potential to boost federal revenues by $12 billion and $15.5 billion in those two years. The drop in U.S. oil demand, however, would lower actual revenue collections to $11 billion in 1987 and to $13 billion in 1991 (Table 1).

The $5 per barrel oil import fee would raise the refiners' acquisition cost of crude oil an average of 26.4% over the five-year period; petroleum product prices would climb 20.3% and retail gasoline prices 12 cents per gallon. Furthermore, the prices of competing fuels and electricity would follow oil prices: wholesale natural gas prices would surge 19.2%, coal prices would move up 5.1%, and electricity prices would rise 6.1%. Overall, wholesale fuel and power prices would increase 16.0%, leading to an 8.6% rise in consumer energy prices. As a result, industrial prices would rise an average of 3.1% annually over the five-year period, with consumer price increases averaging 1.5%.

The pickup in inflation would slightly outweigh the depressing impact of lower real economic activity on interest rates. The three-month Treasury bill rate would rise by a maximum of 28 basis points before returning to baseline levels in 1991.

In the first year of the tax, consumer energy expenditures would increase by $11 billion (6.0%), reflecting an 8.3% hike in energy prices and a 2.2% cutback in consumption. With less income to spend, households would reduce their purchases of other goods and services as well, leading to a loss in employment and a further reduction in incomes.

Faced with higher prices and lower product demand, producers would scale back their investment spending. Business fixed investment would, however, rise above the baseline in the first year of the tax because of a $3.2 billion increase in investment in mining and petroleum structures. Although spending in this category would remain strong throughout the five-year period, cutbacks in the other investment areas would eventually dominate and result in a 1.4% average annual decline in capital spending. By 1991, the net effective capital stock would thus fall 1.1% below the baseline.

A significant increase in U.S. prices would damage U.S. competitiveness in world markets, lowering real export volumes by more than 2%. The U.S. trade balance would nevertheless improve because import volumes would fall even more in response to the weak domestic economy and lower oil demand. U.S. oil imports would fall an average 1.2 mmbd, thanks to a 1.0 mmbd drop in oil demand and a 0.2 mmbd increase in domestic oil and natural gas production. This translates into a $45 billion savings in the oil import bill for the five-year period and is primarily responsible for the $43 billion improvement in the U.S. current account deficit.

With net exports partially offsetting the declines in consumer and investment spending, real GNP (measured in 1982 dollars) is $7 billion (0.2%) lower in 1987 and a total of $178 billion (0.9%) lower for the five-year period. Real disposable income is reduced 0.5% in the first year and an average of 1.1% annually. In terms of employment, there would be 90,000 fewer jobs in 1987, and 989,000 fewer in 1990.

Inflation would pump up other federal tax receipts in the first few years after the import tax is imposed. Output and employment losses would more than offset this effect in later years, however, lowering receipts by $2-4 billion annually. In addition, federal spending would rise $8-18 billion annually because of higher government transfer payments, interest payments, and goods and service prices. Mounting federal expenditures would eventually turn the oil import fee into a net revenue drain: the federal deficit would shrink $12 billion in 1987 and $1 billion in 1988, but then widen $19 billion in 1989-91. Furthermore, state and local

Table 1
Effects of a $5 per Barrel Oil Import Fee

	Changes Relative to Base Case				
	1987	1988	1989	1990	1991
	(Billions of dollars)				
Energy Tax Levy	11	10	11	12	13
Consumers Energy Bill	11	14	14	13	11
Price Effects					
	(Percentage change)				
Crude Oil Acquisition Price	29.8	28.4	27.0	25.0	22.7
(Dollars per barrel)	5	5	5	5	5
Retail Gasoline Price	12.5	12.3	11.4	10.0	8.6
(Cents per gallon)	12	12	12	11	10
Producer Prices					
Fuels, Related Products & Power	15.4	17.7	17.1	15.8	14.3
Refined Petroleum Products	21.6	23.0	21.4	19.2	17.1
Gas Fuels	18.6	22.2	20.7	18.5	16.5
Coal	1.6	4.4	6.6	6.7	6.1
Electric Power	2.8	6.1	7.2	7.4	6.8
Industrial Commodities	2.9	3.6	3.4	3.1	2.7
Consumer Price Index	1.0	1.5	1.7	1.7	1.6
Consumer Energy Prices	8.3	9.6	9.3	8.4	7.4
Macroeconomic Impacts					
Real GNP (Billions of 1982 dollars)	-7	-28	-52	-51	-41
	(Percentage change)				
Real GNP	-0.2	-0.7	-1.3	-1.2	-1.0
Consumption	-0.6	-1.0	-1.3	-1.3	-1.2
Energy	-2.2	-2.3	-2.3	-2.3	-2.3
Residential Investment	-1.0	-1.8	-2.2	-1.1	0.1
Business Fixed Investment	0.4	-0.5	-2.5	-2.6	-1.7
Exports	-0.2	-1.0	-2.2	-2.6	-2.4
Imports	-1.6	-2.7	-3.5	-3.6	-3.2
Real Disposable Income	-0.5	-0.8	-1.2	-1.3	-1.2
Industrial Production	-0.6	-2.2	-3.5	-3.4	-2.8
Treasury Bill Rate (Basis points)	17	28	22	10	-2
Housing Starts (Thousands of units)	-30	-52	-50	-14	17
Employment	-0.1	-0.4	-0.8	-0.9	-0.8
(Thousands of persons)	-90	-418	-897	-989	-858
Oil Imports (Billion barrels)	-0.2	-0.4	-0.5	-0.5	-0.6
Current Account Balance (Billions of dollars)	7	11	11	8	6
Government Budget Impacts					
	(Billions of dollars)				
Federal Government					
Offsetting Tax Changes	7	2	-4	-2	0
Total Revenues	18	13	8	10	12
Expenditure Changes	6	12	17	18	14
Federal Deficit	-12	-1	9	8	2
State & Local Government Deficit	1	3	3	0	-2
Total Government Deficit	-11	2	12	8	0

surpluses would be reduced by $4 billion over the five-year period.

THE FEDERAL MOTOR FUELS TAX

Like the oil import fee, a 10-cent per gallon increase in the gasoline and diesel fuel tax would generate $11-12 billion annually in receipts. This measure is less inflationary, however, and would therefore be less detrimental to real economic activity.

Gasoline and diesel fuel represent approximately 62% of wholesale petroleum product. With an estimated 65% of business use subject to the tax, a 10-cent per

Table 2
Effects of a 10-Cent per Gallon Motor Fuels Tax

	Changes Relative to Base Case				
	1987	1988	1989	1990	1991
	(Billions of dollars)				
Energy Tax Levy	11	11	12	12	12
Consumers Energy Bill	5	5	4	4	4
Price Effects					
	(Percentage change)				
Crude Oil Acquisition Price	0.1	0.3	0.3	0.3	0.2
(Dollars per barrel)	0	0	0	0	0
Retail Gasoline Price	9.2	8.1	7.9	7.3	6.7
(Cents per gallon)	9	8	8	8	8
Producer Prices					
Fuels, Related Products & Power	1.7	1.7	1.6	1.4	1.2
Refined Petroleum Products	4.1	3.6	3.4	3.0	2.7
Gas Fuels	0.0	0.2	0.2	0.2	0.2
Coal	0.1	0.1	0.1	0.1	0.0
Electric Power	0.1	0.2	0.2	0.2	0.1
Industrial Commodities	0.3	0.4	0.3	0.2	0.1
Consumer Price Index	0.5	0.5	0.5	0.4	0.3
Consumer Energy Prices	4.3	3.8	3.7	3.4	3.1
Macroeconomic Impacts					
Real GNP (Billions of 1982 dollars)	-11	-20	-22	-18	-15
	(Percentage change)				
Real GNP	-0.3	-0.5	-0.6	-0.4	-0.4
Consumption	-0.4	-0.6	-0.7	-0.6	-0.6
Energy	-1.4	-1.4	-1.5	-1.5	-1.4
Residential Investment	-0.5	-0.5	-0.3	0.2	0.5
Business Fixed Investment	-0.4	-1.1	-1.3	-0.9	-0.6
Exports	-0.1	-0.4	-0.6	-0.5	-0.4
Imports	-0.7	-1.3	-1.5	-1.2	-1.0
Real Disposable Income	-0.3	-0.5	-0.6	-0.6	-0.6
Industrial Production	-0.6	-1.0	-1.0	-0.7	-0.5
Treasury Bill Rate (Basis points)	6	3	-3	-9	-14
Housing Starts (Thousands of units)	-13	-11	-5	8	13
Employment	-0.1	-0.3	-0.4	-0.3	-0.3
(Thousands of persons)	-122	-295	-398	-356	-294
Oil Imports (Billion barrels)	-0.1	-0.1	-0.1	-0.1	-0.1
Current Account Balance (Billions of dollars)	3	5	6	4	5
Government Budget Impacts					
	(Billions of dollars)				
Federal Government					
Offsetting Tax Changes	-4	-7	-7	-7	-7
Total Revenues	7	4	4	5	5
Expenditure Changes	3	4	4	2	0
Federal Deficit	-5	0	0	-3	-5
State & Local Government Deficit	2	3	2	0	0
Total Government Deficit	-2	2	1	-3	-5

gallon tax increase would raise petroleum product prices an average of 3.3% annually over the next five years. Without a close substitute for gasoline and diesel fuel in transportation uses, there would be no fuel switching and therefore no rise in alternative fuels prices. Moreover, a cutback in motor fuel demand would eventually force refiners to absorb 2 cents of the tax increase, offsetting some of the initial impact on consumers. Energy prices at the producer and consumer levels would thus average only 1.5% and 3.6%, respectively, above the baseline. Industrial prices would rise a mere 0.3% and consumer prices 0.4%.

Consumer energy expenditures would rise $5 billion (2.8%) in the first year of the tax. As with the oil import fee, higher energy prices would reduce real disposable income, leading to further consumer spending declines. Unlike the oil import fee, however, the motor fuels tax would not encourage investment in mining and petroleum structures. With oil and natural gas wellhead prices rising only with inflation, domestic production would remain close to baseline levels. Declines in other investment areas would lower overall business fixed investment 0.4% in 1987 and 0.9% annually over the forecast period. The net effective capital stock would therefore fall 0.5% below the baseline level in 1991.

The small inflationary effect of the tax would show up in U.S. export prices, lowering real export volumes 0.4-0.6% below baseline levels. Declines in domestic spending, however, would cut imports 0.7% in the first year of the tax and a maximum of 1.5% within three years. Only a small part of the cutback in real imports would come from oil. With U.S. oil imports reduced 0.2 mmbd, the oil import bill would only fall $8 billion for the five-year period. Nevertheless, the U.S. current account deficit would improve by a total of $22.3 billion.

Imposition of a higher motor fuels tax would have only half the detrimental impact on growth as the import fee: real GNP would be $11 billion (0.3%) lower in the first year of the tax, and a total of $86 billion (0.4%) lower over the five-year period. At the same time, real disposable income would fall by 0.5% annually.

More than half the $11-12 billion in annual revenues would be lost because of offsetting tax changes. With prices up only slightly, slower economic growth would reduce nominal tax receipts from other sources by $4 billion in 1987 and $7 billion annually in 1988-91. The federal deficit would thus improve by only $13 billion over the full five-year period. In addition, the weaker economy would eliminate $7 billion from state and local treasuries over this period, implying a total government deficit reduction of only $6 billion.

SUMMARY COMPARISON

Both energy taxes examined here would generate just over $57 billion in revenues within a five-year period

Table 3
The Cumulative Impact of Energy Taxes, 1987-91
(Change from base case)

	$5 Import Fee	10-Cent Motor Fuel Tax
Government Budget Impact (Billion $)		
Energy Tax Revenue	57.4	57.5
Total Federal Tax Revenues	60.5	25.0
Federal Expenditures	66.4	11.7
Federal Deficit	5.9	-13.3
State and Local Deficit	3.8	7.3
Total Deficit	9.7	-6.0
Deficit Change per Dollar of Energy Tax Revenues (Dollars)		
Federal	0.10	-0.23
State and Local	0.07	0.13
Total	0.17	-0.11
Energy Demand and Supply (Mmbd)		
Domestic Energy Consumption	-1.2	-0.3
Dometic Energy Production	0.2	-0.1
Oil Imports	-1.2	-0.2
Oil Imports (Billion barrels)	-2.3	-0.4
Real GNP (Billion 1982 $)	-178	-86
Change in Output per Barrel of Oil Import Reduction (1982 $)	-79	-200
Oil Import Bill (Billion $)	-45	-8
1991 Capital Stock (%)	-1.1	-0.5

(Table 3). An oil import fee, however, would be far more inflationary than a higher motor fuels tax. This higher inflation, in turn, would lower real GNP by $178 billion--twice the impact of the motor fuels tax levy. In this weaker economic environment, federal spending would rise faster than revenue growth, resulting in a $6 billion increase in the federal deficit and a $4 billion decline in state and local government surpluses. The motor fuels tax, in contrast, would reduce the federal deficit $13 billion, but take $7 billion away from state and local treasuries. Each dollar of revenue collected from an oil import fee would thus increase the government deficit by 17 cents; each dollar of revenue from a motor fuels tax would narrow the deficit by 11 cents.

The oil import fee would clearly be more successful than the motor fuels tax in reducing U.S. dependence on foreign oil: oil imports would fall by an average 1.2 mmbd over the five-year period, compared with only a 0.2 mmbd reduction under the motor fuels tax. In terms of lost real output, however, the cost of reducing oil imports would be $79 per barrel with an oil import fee and $200 per barrel with a motor fuels tax. Neither measure can therefore claim to be an economic means of lowering U.S. oil imports.

Senator METZENBAUM. Thank you very much.

I want to conclude this hearing. I thought we would have to break by 4:30, but I now find that there is a roll call on and we will have to break a little bit earlier. Senator Evans, if he has no questions—or if you do, please proceed. And if you do, I will just suggest to you that you ask your questions and then adjourn the meeting at the conclusion of your doing so.

Senator EVANS. Well, I just have one question, Mr. Chairman, of Mr. Fillman from Bethlehem. You suggest that governmental intervention in any way "cannot help but create problems in product quality and operating costs. Well-intended schemes crafted in Washington which often make no economic sense are not able to successfully enforce the conservation ethic on industry." Do you oppose with equal vigor governmental intervention in ways that might protect the steel industry against foreign imports?

Mr. FILLMAN. I think the import question is a little different. It is well-known throughout the 25 year history that there has been a lot of dumping going on, unfair trade practices going on in the steel import situation. I think it is a little——

Senator EVANS [presiding]. That does require carefully calculated governmental intervention to resolve that?

Mr. FILLMAN. That is correct.

Senator EVANS. So, governmental intervention in one case is okay, but in the other case it cannot work?

Mr. FILLMAN. Well, on the conservation side the marketplace on the availability of capital, on spending for conservation, on plant equipment should be I think determined on an economic basis. When you look at basic conservation on housekeeping activities and things like that, I think people are continuing to look—plants are continuing to look at ways to reduce costs that way.

Senator EVANS. Wouldn't you suggest that if you had as an element in that economic equation a feeling that it was important for us to conserve oil and to use less oil and as a result, to put into that economic equation an extra cost of oil, and then let you go and let your economy and your reaction to that take hold in the marketplace? I am not suggesting it from the point of view from supporting this bill because I don't. But isn't it just as legitimate, if you are talking about the marketplace, to say if it is in the national interest to protect a certain commodity, and to protect that commodity, you may have to add a tax, if you will, or a price so that you get proper response? Is that improper?

Mr. FILLMAN. But there may be other ways of doing it other than a tax.

Senator EVANS. Name one.

Mr. FILLMAN. For instance, the possibility of incentives for the oil industry, decontrol of natural gas and such.

Senator EVANS. But nothing on the conservation side.

Mr. FILLMAN. I believe the market will basically govern the conservation. We are going to continue to reduce costs within our operation, and we are doing that, and we have continued to do that even under very trying times. We are continuing to put in casters and things like that which do reduce our energy consumption.

Senator EVANS. But that all, as you say, is based on the whole economic picture and your cost of capital and all of the other elements that you have to take into account, and your return on investment. If all other things being equal you found that the price of oil was $5 a barrel higher than it was yesterday, that would change your attitude toward conservation, wouldn't it?

Mr. FILLMAN. No, I don't believe it would. We are continuing to try to—we still have a very aggressive energy program.

Senator EVANS. You wouldn't be acting in the best interests of the company. If you suddenly had one element in the whole equation that had changed and become a larger share of your cost, wouldn't it be prudent economically to act in a way to minimize the effects of that?

Mr. FILLMAN. I think we would have to make a decision at that point in time if the hurdle rates are different in our investing capital on a particular project or not. If $5 a barrel would make the change, I can't tell you whether that would make a change, whether we would invest in a certain project or whether we wouldn't invest in a certain project.

Senator EVANS. Or whether you would invest in a conservation project rather than in some other type of project.

Mr. FILLMAN. Than in an operational project.

Senator EVANS. Okay, well, $5 might not do it, but certainly the thought is there that an increased price in one element causes you to pay more attention to it.

Mr. FILLMAN. That is correct. It would make you feel—it would increase the conservation ethic to a degree, but not total.

Senator EVANS. Thank you very much, all of you.

This hearing is adjourned.

[Whereupon, at 4:25 p.m. the hearing was adjourned.]

APPENDIX

Additional Material Submitted for the Record

HARVARD UNIVERSITY
JOHN F. KENNEDY SCHOOL OF GOVERNMENT
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William W. Hogan
Professor of Political Economy

79 John F. Kennedy Street
(617) 495-1317

June 3, 1987

Senator Howard Metzenbaum
United States Senate
140 Russell Senate Office Building
Washington, DC 20510

Dear Senator Metzenbaum:

At the request of Senator Nickles' office, I have enclosed three papers which I submit for inclusion in the record in connection with your hearings on S694, the Energy Security Act of 1987, held on June 2, 1987. The three papers summarize a range of analyses conducted here in collaboration with my colleague Harry Broadman. The first paper, "Oil Tariff Policy: An Overview", extracts the major conclusions and gives a brief summary of our research on oil tariff policy. The second, "Oil Tariff Policy in an Uncertain Market," provides a more detailed analysis and quantification of the various arguments supporting or refuting the use of an oil tariff as a part of our national energy policy. The third paper, "The $200 Billion Surprise," provides a review and discussion of a major facet of the Department of Energy's recent study, Energy Security.

The net conclusion of the three papers is that the economic analysis supports the case for a large gap between the total cost of oil imports and the market price. The difference, the oil premium, points to the use of an oil tariff in order to internalize the true cost of oil imports. Our best estimates conclude that something in the neighborhood of $10 a barrel would be supported by the analyses. This economic analysis does not exhaust the case against oil tariffs, but it does suggest strongly that arguments against tariffs must depend on other difficult judgments about national trade policy.

I would be happy to discuss these matters with you further.

Sincerely,

Enclosures
cc: Senator Don Nickles
Deputy Secretary William F. Martin

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HARVARD UNIVERSITY
JOHN F. KENNEDY SCHOOL OF GOVERNMENT
ENERGY AND ENVIRONMENTAL POLICY CENTER

OIL TARIFF POLICY
IN AN UNCERTAIN MARKET

HARRY G. BROADMAN
WILLIAM W. HOGAN

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OIL TARIFF POLICY IN AN UNCERTAIN MARKET

by

Harry G. Broadman

and

William W. Hogan

November 1986

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Harry G. Broadman
William W. Hogan
November 1986

EXECUTIVE SUMMARY

Rising U.S. dependence on imported oil poses a renewed threat to the country's energy security and economic stability. U.S. oil imports are averaging over 5 million barrels a day — the highest level since 1981 — as lower prices have led to increases in overall consumption and decreases in domestic production. Unchecked, these trends could expose the United States to the risks of future price disruptions in the world oil market, triggered by events in the volatile Middle East.

Imposition of a large fixed fee on imports of both crude and refined oil would greatly enhance U.S. energy security. The study estimates that the tariff required to bring about a "socially optimal" level of U.S. oil imports is between $10 and $11 a barrel.

The price paid by the U.S. for imported oil in the world market does not reflect the true, or social, cost to the nation of dependence on insecure sources of supply; given this gap between social cost and market price, more oil is consumed in the U.S. than is optimal. In other words, there are market imperfections associated with U.S. oil imports, just as there are market imperfections associated with the pollution created from burning high-sulfur coal. Collectively, these market imperfections give risk to an "oil import premium," which reflects the additional amount that society should be willing to pay above the world price for imported oil.

There are two sets of market imperfections that comprise the premium. One of these is the "economic component" of the premium. Because the United States is such a large purchaser in the world oil market, the price paid for foreign oil is not independent of how much the country imports. In particular, the greater the volume imported, the higher the price, and vice versa. Importantly, this means that, within the U.S., a given increase in demand for oil imports leads to a higher price that all pre-existing importers must pay. Moreover, rising world oil prices adversely affect both our macroeconomic performance and trade balance. Yet, individual U.S. purchasers of foreign oil do not pay a price that fully reflects these costs.

The "security component" of the premium reflects costs that stem from sudden, unanticipated, and large changes (i.e., disruption), in the price of oil in the world market. The U.S. economy is vulnerable, in the event of an oil price run-up, to an increased transfer of wealth abroad and its attendant costs. This vulnerability is a direct function of the volume of oil imports prior to a disruption. Another element of the security component of the premium is a function of the importance of oil per se in the economy. The greater the value share of oil in the economy at the time of a disruption and the greater the economy's inability to shift quickly away from oil in the face of a change in its price, the greater the macroeconomic costs from the price shock. It is well-known that these macroeconomic costs are substantial.

A model is developed to quantify the sources of market failure which prevent private actors from recognizing the true costs of the marginal barrel of U.S. oil imports and to derive the appropriately-sized tariff that closes the gap between social cost and market price. Sensitivity analyses are conducted to test how the estimate of the optimal tariff changes with alternative assumption and judgments about oil prices, the probability and size of disruptions, and so on. While the resulting tariff estimates are sensitive to assumptions about market conditions, this sensitivity is much less than is commonly believed. The size of the optimal tariff is large; our preferred set of assumptions set the optimal tariff at between $10 and $11 per barrel.

The form of a U.S. tariff on imported oil could vary across a range of alternatives, including a simple fixed fee, a variable fee designed to establish a floor price, or a fee defined in proportion to the price of oil. We argue that the fixed fee is the simplest and most effective tariff form. In addition, we note that the granting of exemptions or exceptions, either to a special category of foreign suppliers or to a special category of U.S. consumers, would reduce the economic savings produced by a tariff.

Finally, although a tariff on imported oil will result in a real saving for the nation as a whole, it will redistribute resources throughout the economy, creating "winners" and "losers." But because the gains enjoyed by the "winners" are larger than the costs suffered the "losers," the tariff will produce positive net benefits for the nation in the aggregate.

OIL TARIFF POLICY IN AN UNCERTAIN MARKET

I. INTRODUCTION

OIL TARIFF

A $10 to $11 per barrel tariff on U.S. oil imports is justified by the special characteristics of oil and oil markets. Unlike other commodities, oil production and prices have been manipulated successfully by foreign producers for protracted periods. Moreover, unlike most other products, the price and availability of oil significantly affect macroeconomic variables such as our trade balance, the rate of inflation, and aggregate level of economic activity. And, more than most commodities, oil is crucial to our national security. For these reasons, the full cost of U.S. oil imports is not reflected in the price we pay in the world market. The gap between the true cost of oil to the nation and the market price justifies imposition of an offsetting tariff.

This paper examines the issues raised by current proposals for restrictions on U.S. oil imports through the use of a tariff. The discussion reviews the general policy arguments, describes a framework for estimating the costs to the United States of its free market policy in oil, estimates the size of optimal U.S. oil import tariff with special attention to world oil price uncertainty, compares the efficacy of different tariff instruments, and appraises the most salient issues that arise in implementing a tariff policy.

ENERGY SECURITY POLICY

Energy policy has returned to the national agenda. Unlike the last decade, however, when disruptions in the world oil market meant shortages and high prices, today the "crisis" is a supply glut and low prices. And whereas before, consumers were the losers and producers the winners, now these positions have been reversed.[1]

But one thing has not changed: government action is being advocated as a solution to a problem in the energy marketplace. Beleaguered domestic oil producers have called for a tariff on imported petroleum supplies.[2] Such a protectionist measure would, in effect, provide them with price guarantees in the face of soft market conditions. Behind the producers' argument is the belief that world oil prices will remain low for a sustained period of time and that, as a result, there will be an appreciable decline in U.S. exploration, development, and production activity, posing a major threat to the future viability of the U.S. oil industry.

The effects of the drop in oil prices have been widely reported. The general expectation is that with lower prices there will be an increase in the demand for oil but also a reduction in the level of output from high-cost . domestic wells. The result will be growth in the volume of oil imported into the United States and a corresponding decrease in the market share of indigenous supplies.[3]

The most recent data available for the United States confirm these forces are very much at work.[4] Total demand for petroleum is projected to increase by about 3 percent in 1986. Domestic production of crude is projected to fall off by 150,000 barrels a day. Imports of crude and refined products will rise by about 18 percent, averaging over 5.0 million barrels a day (mmbd), the highest level since 1981. Total imports will thus reach about 32 percent of U.S. demand this year. Persistent soft market conditions will exacerbate these trends. Substantial reductions in drilling activity — the domestic rig count has dropped from approximately 4500 in October 1981 to about 800 in October 1986 — should result in continuing declines in U.S. crude production in the years ahead.

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[1] For a survey of the data and a history as well as analysis of the price collapse, see Dermot Gately, "The 1986 Oil Price Collapse: What Happened and What Did We Learn?, Economics Department, New York University, August 28, 1986.

[2] They are supported by those anxious to find new sources of revenue to reduce Federal budget deficits.

[3] For the most recent assessment and summary of the effects of sharply lower prices, see Conoco Corporation, World Energy Outlook Through 2000, September 1986.

[4] The following data are taken from the U.S. Department of Energy, Energy Information Administration, Short-Term Energy Outlook October, 1986

To be sure, the dramatic fall in the price of oil points to the need to reconsider U.S. energy security policy. However, the message implied by the current turn of events is not so much that public policy may need to be revised simply because now oil prices are low, but rather because they can be low. In other words, the critical question is how should government respond to a world oil market characterized by prices which move down as well as up.

The focus of U.S. energy security policy has been the development of the Strategic Petroleum Reserve (SPR), a large inventory of oil under government control that can be brought quickly to replace lost supplies. Previous analyses of the SPR reinforce its importance and point to the need to add oil to the inventory.[5] In addition, these same analyses highlight the value of other, complementary policies, including an oil tariff, that could enhance energy security.

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[5] Thomas J. Teisberg, "A Dynamic Programming Model of the U.S. Strategic Petroleum Reserve," Bell Journal of Economics, Volume 12, Number 2, Autumn, 1981; and William W. Hogan, "Oil Stockpiling: Help Thy Neighbor," Energy Journal, Vol. 4, Number 3, July 1983.

Notwithstanding the development of the (SPR), U.S. government response to the problem of energy security since the late 1970s has been primarily one of laissez faire. The roots of this free market policy lie partly in the costly experience with price controls in the early and mid 1970s, and with good reason. The result is, in many analysts' view, a myopic energy security policy: placing all of our energy security eggs in one basket — the SPR — is too narrow an insurance policy for the nation.

The re-emergence of volatility in oil prices has rekindled this concern and renewed the search for policy instruments to supplement the SPR. An import tariff has been the most frequently mentioned one. In this regard, a tariff has been advocated as a way for the United States to maintain downward pressure on otherwise rising oil prices; as a way to foster investment in capital equipment that has flexibility in fuel usage, and thus to make the economy more resilient to oil price shocks; and as a way to counteract deleterious effects on our trade balance with oil exporters. All of these rationales for a tariff are independent from its effect on protecting domestic oil producers in a soft market. Indeed, such arguments were advanced when oil prices were high.[6]

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[6] See, for example, Harry G. Broadman, "Review and Analysis of Oil Import Premium Estimates," Discussion Paper D-82C, Energy and National Security Series, Resources for the Future, Washington, D.C., December 1981; and William W. Hogan, "Import Management and Oil Emergencies," in Energy and Security, David Deese and Joseph S. Nye, eds., (Cambridge, MA: Ballinger, 1981); and James L. Plummer (ed.), Energy Vulnerability, (Cambridge, MA: Ballinger, 1982).

II. THE OIL IMPORT PREMIUM: A CONCEPTUAL FRAMEWORK

The idea of applying a tariff to U.S. oil imports is not new.[7] However, the usual argument made by economists in support of such a policy does not derive from the notion of protecting the U.S. oil industry, but rather the objective of insuring that the United States consumes the "optimal" level of imported oil, i.e., where the nation's benefit from oil imports is maximized.

At the core of this argument is the fact that a large fraction of the free world's oil reserves are concentrated in a few volatile regions and that, as a result, oil prices are exposed to an appreciable risk of being disrupted. This feature of the world oil market, together with the fact that the United States is a large purchaser of oil and thus, the volume of its oil imports directly affects the market price, suggests that the price paid by U.S. oil consumers does not fully reflect the true national cost of imported oil. In other words, there are market imperfections associated with U.S. consumption of imported oil — just as there are some associated with the pollution created from burning high-sulfur coal.[8] To the extent these oil market imperfections — commonly thought of as collectively giving rise to an "oil import premium" — are not incorporated into the purchase price of imported oil by, say, imposing a tariff, U.S. consumption of oil imports will exceed the optimal level.

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[7] Use of a U.S. oil import tariff actually dates back to the 1930s. See our discussion of the tariff's history below.

[8] Nordhaus used the analogy to environmental pollution in proposing a $10 tariff on oil imports. Nordhaus, William, "Put a Tax on Oil Pollution," New York Times, April 18, 1982.

The oil import premium concept suggests, then, that a tariff could be used to reduce U.S. oil import levels to the point where the costs to society of importing the incremental barrel of oil just balance the benefits. Importantly, the premium notion implies that the optimal level of U.S. oil imports may not be zero. In other words, the idea that the United States should strive to eliminate completely its consumption of imported oil is bad public policy.[9]

Another important implication of analyzing U.S. energy security policy in terms of the oil import premium is that support for a tariff need not directly hinge on whether oil prices are low or high. Rather, from this perspective, a tariff is seen as an instrument — in addition to the SPR — that addresses imperfections that are endemic to the world oil market. As long as volatile regions continue to account for a large fraction of world oil reserves, and as long as the volume of foreign oil purchased by the United States influences the market price, an oil import premium exists for the United States. Thus, while transitory variations in market conditions — gluts as well as shortages — will alter the magnitudes and signs of individual components of the premium, the total value of the premium need not vary appreciably.

The oil import premium implies that the full cost of imported oil is not incorporated into private consumption and production decisions. Thus, individual consumers will pay too low a price and use more imported oil than is optimal, and domestic oil producers will face a return below the true value of the incremental barrel of oil and produce too little. In theory, then, the premium reflects the additional amount that society should be willing to pay above the world price for imported oil (or its substitutes). Alternatively, the premium can be interpreted as a measure of the net social benefits of reducing the consumption of imported oil. Or, to take another example, the premium serves as a guide for how much the nation should be willing to pay for military protection of oil supplies.

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[9] This, of course, was the original objective of Project Independence, introduced by President Nixon. See, for example, Douglas R. Bohi and Milton Russell, Limiting Oil Imports: An Economic History and Analysis (Washington, D.C.: Resources For the Future/Johns Hopkins University Press, 1978).

It should be clear that the oil import premium provides a systematic framework for analyzing energy security problems beyond ways in which the currently low level of oil prices threatens the viability of domestic producers. Rather than viewing a tariff as a short term policy prescription, the premium framework takes the long run view. It recognizes that the energy security problems we face today are, in fact, not fundamentally different from those that have been present for the past decade or are likely to arise in the next decade. The "energy crisis" is not one of high prices, or low prices. It is instead, one intrinsic to the nature of oil — where it is found and its role in the economy — and in the structure of the world oil market. The challenge for public policy is to deal with an energy security problem that is chronic and large.

COMPONENTS OF THE OIL IMPORT PREMIUM

There are two sets of market imperfections that comprise the premium. One of these is the "economic component" of the premium. The economic component reflects imperfections arising from the fact that the price the United States pays for oil on the world market is affected by the level of U.S. import demand, and from the fact that systematic changes in oil prices directly influence U.S. macroeconomic performance. The other portion of the premium is the "security component." The security component reflects the market imperfections associated with the total costs of oil supply disruptions and with the risks arising from vulnerability to such disruptions.

The Economic Component

Because the United States is a large oil purchaser in the world market, the price we pay for oil imports is not independent of how much we buy. The greater the volume of oil imports, the higher the price, and vice versa. Importantly, this means that a given increase in U.S. demand for oil imports leads to a higher price that all pre-existing U.S. oil importers must pay. Thus, not only does the party responsible for the increase in oil import demand cause it to face a price that is higher than what it otherwise would pay, but also its contribution to demand affects the price that must be paid by all other U.S. oil importers.

This element of the economic component of the premium can be illustrated using a simple numerical example. Suppose U.S. oil imports stand at 4 mmbd and the world price is $18.00 per barrel. Now assume that if U.S. oil import demand was to increase by 1 mmbd, the price would rise to $20.00 per barrel. The total oil import bill for the United States would increase from $72 million to $100 million per day. The total cost to the United States of each of the additional one million barrels would be $28.00 per barrel. However, the private cost of the marginal barrel would be only $20.00, the market price. Thus, in effect, the United States pays a premium of $8.00 for the last barrel imported.

This is akin to pricing in a market structure characterized by "monopsony" (i.e., buyer market power), where the buyer faces an upward sloping input supply curve for oil import purchases. It can be depicted graphically, as in Figure 1. At a level of Q_0 oil imports into the United States, the price paid per barrel is P_0. An increase in demand, which results in imports rising to Q_1, increases the per barrel price to P_1. The entire shaded area represents the total increase in the social cost of oil imports due to the rise in demand. (Alternatively, it depicts the total social benefits of reducing oil imports from Q_1 to Q_0.) Area B shows the portion of the additional social costs that is borne by the marginal importer. Area A shows the portion borne by other U.S. oil importers.

An important corollary of the notion that the supply curve for U.S. oil imports is upward sloping is that the social costs generated by a rise in import demand increase disproportionately with the level of imports. This proposition is illustrated in Figure 2. The increase in imports between Q_0 and Q_1 is less than the increase between Q_1 and Q_2; the increase between Q_1 and Q_2 is less than the increase between Q_2 and Q_3; and the increase between Q_2 and Q_3 is less than the increase between Q_3 and Q_4. On the other hand, the increase in price between P_0 and P_1 is equal to the increase between P_1 and P_2; between P_2 and P_3; and so on. Now, note that whereas the increase in social costs generated by a rise in imports from Q_0 to Q_1 is area D + area H, the increase in social costs associated with a rise in imports from Q_1 to Q_2 is area C (=area D) + G (>area H). Analogously, the increase in social costs associated with imports rising from Q_2 to Q_3 is area B (=area C) + area F (>area G). And, the increase in social costs generated by a rise in imports from Q_3 to Q_4 is area A (=area B) + area E (>area F).

Since the social costs created by a rise in import demand increase disproportionately with the level of imports, this means that the difference between the marginal social cost and the market price of a barrel of oil im-

FIGURE 1

Private Purchases Increase National Costs

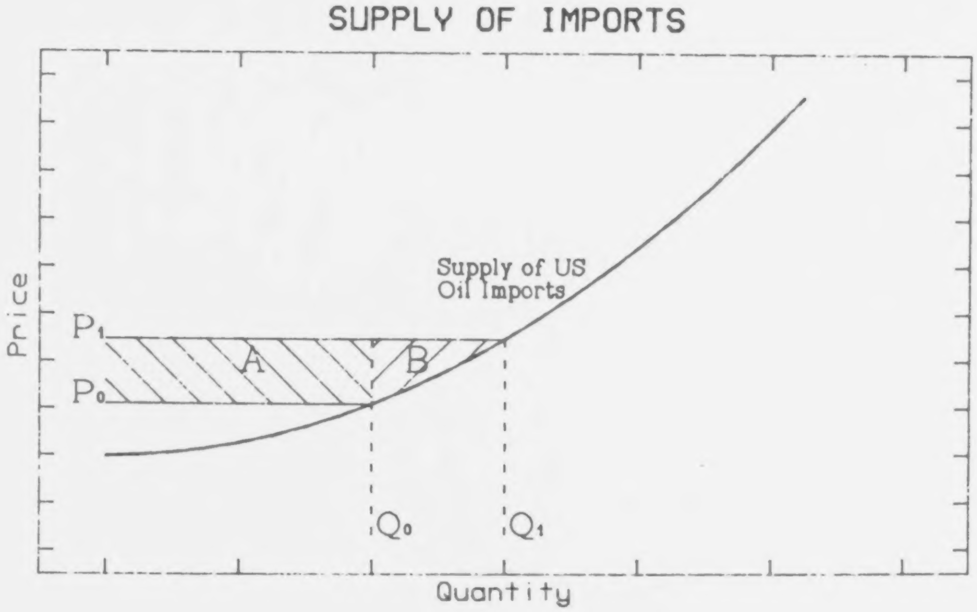
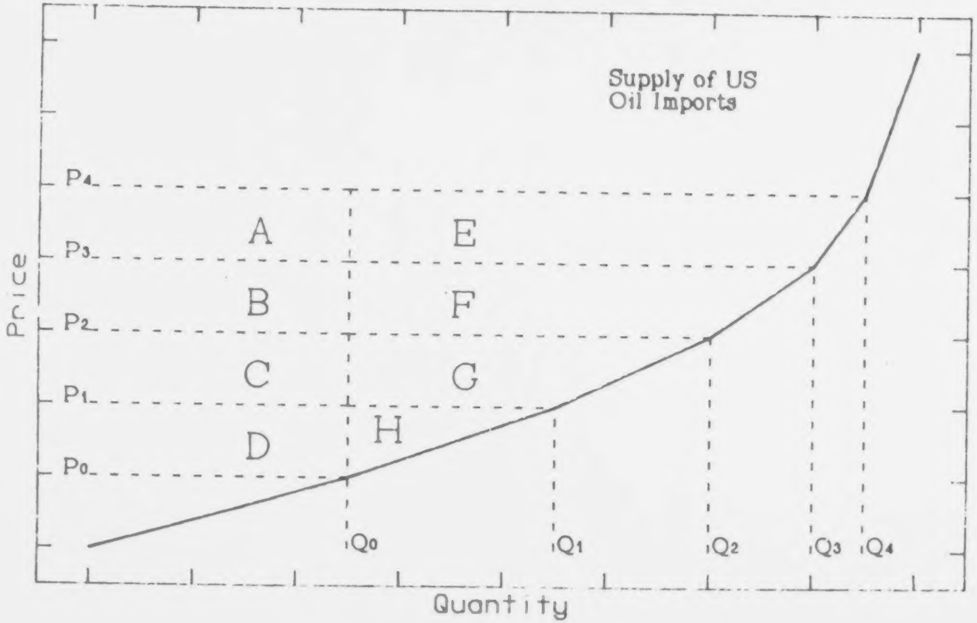


FIGURE 2

Marginal Cost of Oil Rises with Import Levels



ported into the United States increases with the level of imports; this is illustrated in Figure 3. This implies that in general the magnitude of the "monopsony wedge" element of the premium varies directly with the import volume. With low oil prices and rising import demand — the present market situation — it implies that the gap between the marginal social cost and the market price of oil imports is relatively large. Overall, given that there are variations in import demand, it is important in designing a policy instrument aimed at eliminating the market imperfection represented by this element of the premium to develop one which accounts for such changes.

The idea that a premium exists on U.S. oil imports implies that reducing U.S. consumption of imported oil, say, by imposing an appropriately-sized tariff[10] will result in a real cost saving for the United States. To be sure, a tariff will redistribute resources throughout the economy, creating winners and losers. But the status quo has winners and losers as well. Indeed, the existence of a premium means that the market price of imported oil does not fully reflect social costs and, therefore, marginal consumers of that oil are effectively being subsidized by all other consumers. In this regard, by incorporating the premium into the price of oil imports, the U.S. economy would be "internalizing" costs that are already being borne.

Figure 4 formalizes this argument graphically. At Q_0 there is a difference between the marginal social costs and marginal social benefits of U.S. oil imports, represented by the distance between A and B; this distance is (a portion of) the premium.[11] It should be clear that as import levels are

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[10] Defining and estimating the "optimal tariff" are precisely the core tasks of this paper.

[11] Area AB represents only a portion of the premium because it doesn't account for terms of trade and inflationary elements of the economic component (see below); nor does it account for the market imperfections that give rise to the

FIGURE 3

Gap Between Public and Private Cost Grows with Import Volume

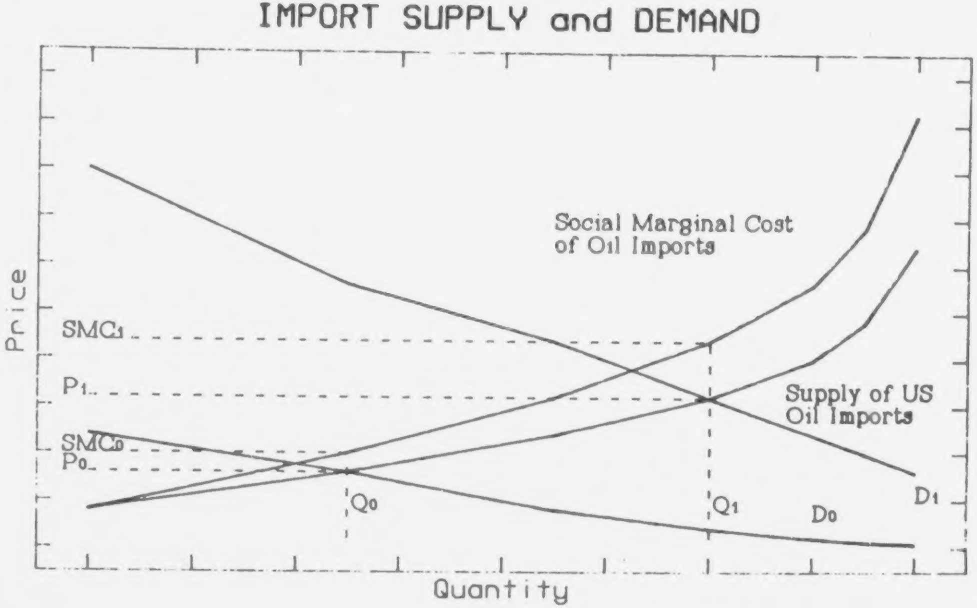
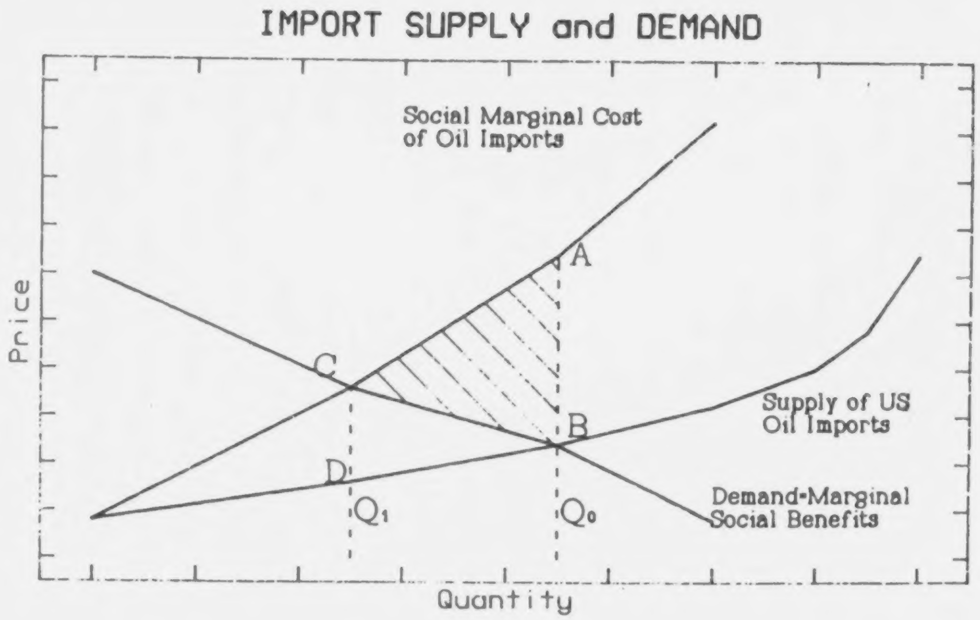


FIGURE 4

Optimal Tariff Balances Total Costs And Benefits



reduced towards Q_1, the difference between marginal social costs and marginal social benefits is reduced. Since at Q_1 the marginal social costs and marginal social benefits of imported oil are equal, the shaded area ABC reflects the total benefits, or avoided costs, of reducing oil imports from Q_0 to Q_1. An alternative interpretation of area ABC is that it depicts the total cost of a free market policy of consuming Q_0 barrels of imported oil. As we will show more fully below, in order to achieve a level of import reduction that results in Q_1 imports, a tariff the size of CD would be required.

In addition to the monopsony wedge element, there are two other elements that comprise the economic component of the oil import premium. The first is perhaps the most obvious. Changes in the price of a commodity like oil, so central to an industrial economy, will have a direct effect on the general price level, all other things equal. A long-run trend of rising (falling) oil prices will increase (reduce) the rate of inflation. To the extent that large reductions (increases) in GNP are needed to reduce (increase) inflation, purchases of imported oil generate "externalities"; that is to say, buyers of imported oil do not pay a price that recognizes that their purchases impose macroeconomic costs. The magnitude of these externalities depends on how oil import volumes and changes in oil prices affect the underlying, or "inertial," rate of inflation, and on the response to this inflation by macroeconomic policy makers.

If oil prices followed a smooth trend over time, then increases (or decreases) might be anticipated and incorporated in the underlying rate of inflation. Moreover, given full anticipation, there could be complete accom-

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security component of the premium.

modation by policy makers and thus no loss in aggregate output. But as we have seen, oil prices follow an erratic path, both up and down.[12] This means that only some of the price changes are incorporated into the underlying inflation rate and that policy makers can provide for only partial accommodation. As a result, some fraction of oil-induced increases in inflation is removed by deliberately constricting output in the economy; therefore, inevitably, "external" macroeconomic costs are associated with U.S. purchases of imported oil.

The other element of the economic component of the premium arises from effects created because changes in the relative price of imported oil result in transfers of wealth abroad. The specific consequence of higher oil imports will be a deterioration in the U.S. terms of trade. To maintain our trade balance in the face of an increase in the total payment for imported oil, either an increase in U.S. export earnings or a decrease in U.S. import expenditures on non-petroleum products would be required. Accordingly, the dollar exchange rate would adjust, making U.S. exports more competitive on the world market and imports more expensive for U.S. consumers. Since at equilibrium total imports available to the U.S. economy would be reduced and U.S. exports would increase, domestic consumers are made unambiguously worse off. The purchaser of the incremental barrel of imported oil does not fully consider this "terms of trade" effect, which is diffused across the economy.

The magnitude of this in terms of trade externality is determined by two factors. First, many of our major trading partners are also oil importers. To the extent they are similarly affected by higher oil prices, the dollar exchange rate for their currencies will not change and that portion of our trade will not be affected. Second, the size of the externality will depend on how quickly the foreign dollar holdings of oil exporters are respent on U.S. goods and services, restoring the balance of trade.

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[12] For an analysis of oil price paths and uncertainty, see William W. Hogan and Paul N. Leiby, "Oil Market Risk Analysis," EEPC Discussion Paper, Harvard University, December 1985.

The Security Component

At the most fundamental level, the security component of the premium reflects external costs that stem from sudden, unanticipated and large changes — in a word, disruptions — in the relative price of oil. For this analysis, it is important to think of disruptions in the world oil market not so much in terms of embargoes, production cutbacks, or other disturbances (such as wars and revolutions), but in terms of the price effects of these actions. We focus on disruptions created by price increases in a fully employed economy.

There are two elements of the security component. The first might best be thought of as reflecting the extent to which the economy is exposed, or vulnerable, to an increased transfer of wealth abroad and its attendant macroeconomic and trade balance costs. This vulnerability is directly a function of the volume of imports prior to a disruption. The larger the import level at the disruption's start, the greater the externalities associated with the wealth transfer for any given price rise. In measuring this vulnerability component, the uncertainties in the duration, timing, and intensity of prospective disruptions must be taken into account.

Whereas vulnerability to the wealth transfer effects is related to the importance of imported oil both in absolute terms and relative to our total oil supplies, the other element of the security component is a function of the importance of oil per se to the economy. The greater the value share of oil in the economy at the time of a disruption and the greater the economy's inability to shift quickly away from oil in the face of a change in its relative price, the greater the macroeconomic costs from the price shock. Empirical studies of previous oil price disruptions show quite clearly that these macroeconomic costs are substantial.[13]

To be sure, given these sizeable costs, private agents adjust their investment plans to disruption risks. Thus, investment decisions by households to purchase oil-using durable goods, and by firms to purchase oil-using equipment and processes, will incorporate — either implicitly or explicitly — expectations about the probability of a disruption occurring, about its magnitude and duration, and about the path that disrupted prices will take. This is because once such investments are made, a major alteration of oil consumption patterns due to a change in relative prices can be very costly. This suggests that in light of the tremendous volatility in oil prices a natural incentive exists for consumers and firms to select investments in oil-using goods and services that enhance flexibility in fuel usage; in economic terms, this means investing in a capital stock that makes the short-run demand for oil more elastic. An example of such an investment is a multi-fired boiler which allows for instantaneous fuel-switching.

The problem is, however, that an insufficient amount of these types of precautionary "shockproofing" investments is made from a societal perspective and thus the short run demand for oil remains very inelastic. In part, this is because disruption costs are largely macroeconomic in nature and, as a result, the benefits of shockproofing are not appropriated solely by those making the investments. That is to say, these types of investments have "public good" characteristics.

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[13] Michael Bruno and Jeffrey Sachs, "Import Price Shocks and the Slowdown in Economic Growth: The Case of U.K. Manufacturing," Review of Economic Studies, vol. 49, no. 5 (1982):679-706.

If there is one attribute common to the two elements of the security component, it is that the costs associated with oil supply disruptions arise because of the economy's failure to adjust smoothly to such price shocks. Empirical research on the macroeconomic effects of disruptions generally concludes that the costs of adjustment tend to increase disproportionately with the severity of disruptions and their duration.[14]

It is useful to illustrate graphically how in the aggregate a change in the relative price of oil in a disruption imposes costs on the economy. In Figure 5, P_N is the world oil price in "normal" periods, and P_D is the price during a disruption. At P_N, total U.S. oil consumption is Q_N', of which Q_N is supplied by domestic producers and $Q_N' - Q_N$ is imported. At P_D, total oil consumption falls to Q_D', domestic supplies increase to Q_D, and imports fall to $Q_D' - Q_D$. The total net social cost to the U.S. economy from the higher price is the sum of areas A, B, and C. Area C reflects a direct loss in our social surplus: the reduction in consumption of $Q_N' - Q_D$ barrels of oil means there is a decline in GNP corresponding to the value of goods and services that otherwise was being produced with that oil. Area A also reflects a GNP loss. It is a measure of the real resources the economy must transfer away from producing other goods and services to produce a commodity that is other-

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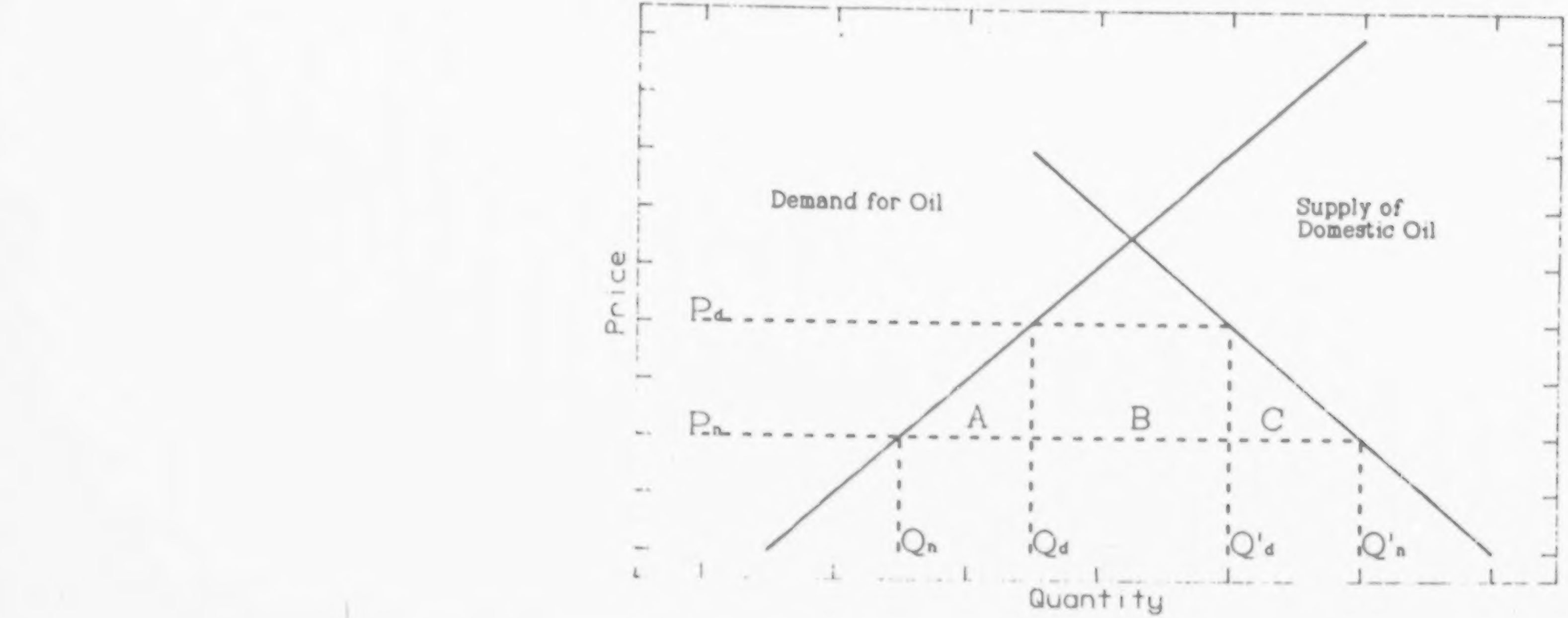
[14] See George Horwich and David Weimer, Oil Price Shocks, Market Response, and Contingency Planning (Washington, D.C.: American Enterprise Institute, 1984) for a review of the relevant studies.

FIGURE 5

Disruptions Create Real Costs and Wealth Transfers



wise cheaper to import. Area B reflects an increase in our oil import bill. For each of the $Q_D' - Q_D$ barrels of oil we import after the disruption, we must pay an extra $P_D - P_N$ dollars. Thus, Area B shows a transfer of wealth from U.S. oil consumers to foreign oil producers.

The Total Premium

As the preceding discussion shows, the magnitudes of the economic and the security components of the premium are both influenced by the level of oil imports. Therefore, the two components are interrelated. For example, if consumers and firms were to anticipate correctly the prospects for and the effects of a disruption, and incorporate these expectations into their investment decisions, the size of the security component would decline; however, as a result, normal period imports would also be reduced, reducing the magnitude of the economic component (recall that the gap between the marginal social. cost of oil imports and the market price varies directly with import volumes). To take a reverse example, imposing a tariff designed to exploit the monopsony-wedge element of the economic component will induce consumers and firms, now faced with higher oil prices, to reorient their investment plans in such a way that prospective disruption costs will be lower than they otherwise would be; consequently, the security component would be reduced.

The message here should be clear. The size of the total premium is not the simple sum of its individual components. Therefore, in estimating the magnitude of the total premium, the sizes of the various components should be determined simultaneously, taking into account the interactions and complementarities between them.

TOTAL COST ANALYSIS OF USING THE PREMIUM AS A POLICY INSTRUMENT

Using a simple comparative static framework, the aggregate implications of using the oil import premium as a guide for policy making are illustrated in Figure 6.

Three panels comprise Figure 6. The first depicts the total U.S. oil market; the second, the market for U.S. oil imports; and the third, the world oil market. The premium is illustrated in the second panel, where the social marginal cost of oil imports (SMC_M) exceeds the market price at an increasing rate as the quantity of oil imports supplied (S_M) rise. At a world price of P, U.S. production is Q_{US} and U.S. imports are $Q_T - Q_{US}$ in panel number I; note Q_M in Panel number II is equal to $Q_T - Q_{US}$. At Q_M level of imports, the premium is equal to the difference in height between J and E; in other words, at Q_M the social cost of the incremental barrel of oil imported into the United States is greater than the market price by J - E dollars. This means that at Q_M the United States is overconsuming imported oil.

One way to internalize this premium is to impose a tariff on imported oil, where the size of the tariff is equal to B - A. Implementing a tariff of this magnitude reduces U.S. demand for oil imports from D_M to D_M'. The decline in U.S. oil import demand results in lower demand in the world market and thus there is a reduction in the world price of oil from P to P'.[15] With a downward shift in U.S. oil import demand, the level of U.S. oil imports declines from Q_M to Q_M' in panel number II; this decline is equivalent to the difference between $[Q_T - Q_{US}]$ and $[Q_T' - Q_{US}']$ in panel number I. Domestic oil consumers now face of price of P'' rather than P. It is important to note that this means that U.S. consumers do not bear the full burden of the tariff,

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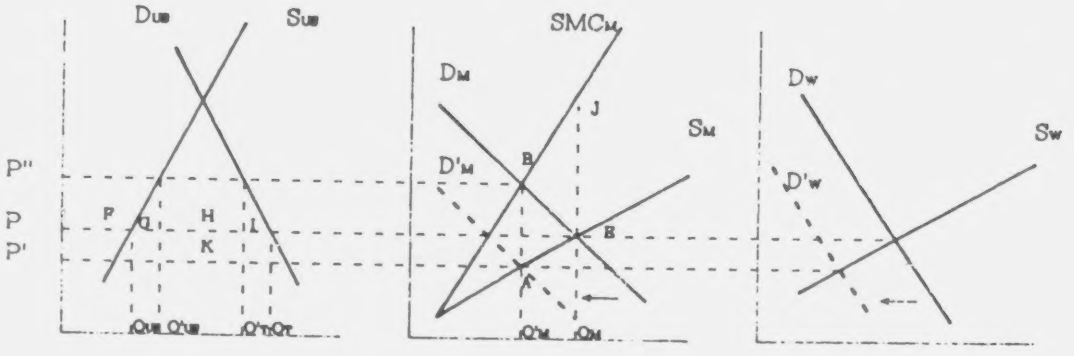
[15] Note that in this simple analysis we assume oil exporters do not retaliate, say, by imposing an export tariff.

FIGURE 6

Total Cost Analysis of Oil Tariffs


P''
P
P'
Dus
Sus
F
G
H
I
K
Qus
Q'us
Q'T
QT
SMCM
DM
D'M
SM
B
J
E
A
Q'M
QM
Dw
D'w
Sw

I
Total US
Market

II
Net US
Import Market

III
World
Market

which is equal to $P'' - P'$. Oil exporters, on the other hand, no longer receive P, but rather P'; hence they share the burden of paying the tariff. As this demonstrates, ex post a tariff creates a wedge for the United States between the world price of oil (P') and the domestic price of oil (P'').

Let us be more specific about the distribution of the gains and losses. In panel number I the area denoted by F reflects the gain in "producer surplus"; it represents a transfer from U.S. consumers to U.S. oil producers and U.S suppliers of non-oil energy resources. (Note that some of the transfer accruing to domestic oil producers is actually returned to consumers under the Windfall Profits Tax.) Area G reflects the real resource costs of producing more domestic oil supplies and non-oil energy substitutes. Area I is a deadweight loss; it reflects the decline in social surplus associated with our reduction of oil consumption as a result of the tariff. The sum of areas H and K is the tariff revenues accruing to the United States Treasury. Area H is the portion directly paid by U.S. oil consumers. Area K is what oil exporters in effect pay: without the tariff, oil exporters would receive P dollars for each of the $Q_T' - Q_{US}'$ barrels of oil imported into the US; with the tariff, they receive only P' dollars. Note that although area K is what U.S. consumers actually pay to the Treasury (in addition to area H), because it is what otherwise would have been paid to oil exporters, it is in effect a tariff payment by the latter.

Overall, then, what are the social benefits and costs of pursuing such a policy? The costs to the United States are given by areas G and I; areas F and H are simply intra-country transfers. The benefits to the United States are given by area K, the effective subsidy provided to the Treasury by oil exporters.

To be sure, as this analysis shows, imposing a tax to correct for market imperfections is never costless. But to the extent that at the margin the benefits engendered are greater than the costs, there is little question about the soundness of such a policy. Thus, the objective for public policy is to select the optimally-sized tax, i.e., one that maximizes the net social benefits. In this particular example, the optimal tariff is one that maximizes the area [K - (G + I)].

III. ESTIMATION OF THE OPTIMAL U.S. OIL IMPORT TARIFF

Since the late 1970s, there have been a number of attempts to estimate quantitatively the magnitude of the premium on U.S. oil imports. Since a detailed review of the seventeen most prominent estimates is presented elsewhere,[16] only a brief summary is required here.

Previous estimates of the total premium span a wide range, from as low as $2.00 per barrel to as high as $124.00 per barrel. However, most of the analytically supportable estimates fall between $2.00 per barrel and $15.00 per barrel. In part, the high-end estimates reflect extreme assumptions about world oil market behavior or oil supply and demand parameters. To take an example of the former, several estimates are predicated on the assumption that changes in the demand for oil imports by the United States are matched by other oil-importing industrial countries; not surprisingly, this produces a rather large estimate of the economic component (because it magnifies the effect of the United States exercising its monopsony power.)

But the upward bias in some of the estimates is also due to a serious conceptual flaw, namely calculation of the total premium as the simple sum of its individual components, rather than incorporating some type of interaction effect. It should be noted that this weakness is not unique to the estimates at the high-end; in fact, most of the estimation methodologies have this problem.

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[16] See Harry G. Broadman, "The Social Cost of Imported Oil," Energy Policy, June 1986. A new estimate is presented in Frederick M. Murphy et al., "An Integrated Analysis of U.S. Oil Security Policy," The Energy Journal, July 1986, pp. 67-82. See also Henry S. Rowen and John P. Weyant, "The Oil Price Collapse and Growing American Vulnerability," Working Paper, Stanford University, September 1986.

The foregoing analysis suggests that what is required to empirically calculate the premium correctly is a model that maximizes the expected net social benefits of oil imports for normal and disrupted periods and that allows for simultaneous estimation of the premium's individual components. To be sure, this is easier said than done, given the many uncertainties that exist about key parameters. For example, how should the behavior of oil exporting countries be characterized in such a model? Similarly, what assumptions should be made about the way U.S. energy and macroeconomic policy makers respond to oil price shocks? And, how should the responses of our oil importing allies be incorporated in such a model?

These problems notwithstanding, we have developed such a model, albeit a relatively simple one. A detailed description of its structure, assumptions made about its parameter values, and estimation procedure is contained in the appendix. Here we present a summary of the estimates obtained.

The basic model provides simultaneous estimates of the optimal tariff, prices, and oil import volumes. Since implementation of this model requires assumptions about a range of inputs whose values are uncertain, we first establish a base case of most likely values, and then examine modifications that seem of most interest in light of current oil market conditions. In short, we prepare sensitivity analyses to examine the likely range of alternative tariff estimates.

The first sensitivity analysis focuses on a base case and the implications of changes in prices. The second sensitivity test examines the importance of the security component by calculating the optimal tariff under the assumption of a secure world oil market with no threat of interruption. Finally, the uncertainties surrounding the full range of inputs enter in a risk analysis that calculates the probability distribution for the optimal tariff.

Estimating the optimal tariff requires assumptions about use of the SPR since the size of the optimal tariff depends on SPR drawdown policy during the interruption. Studies of the use of the SPR suggest both the complexity of an optimal drawdown policy in particular disruption scenarios and the wisdom of a general rule of thumb. If there is a reasonable possibility that a disruption will last for more than one year, then part of the SPR should be used immediately and part should be held for contingencies. Furthermore, given the value of the SPR for later emergencies, part of the disruption should be met with reductions in demand. Our rule of thumb for using the SPR is to draw it down to either meet half the total interruption or half the size of the reserve.

Calculating the optimal tariff allows us to measure the cost of a free market policy, i.e., the cost to the United States of ignoring the premium associated with our consumption of imported oil. As we noted earlier (Figure 4), since the premium measures the difference between price and social cost, the oil import supply curve plus the premium captures the full social cost of imported oil. We also noted that the demand curve measures the corresponding social value of imported oil. This means that once we know the optimal level of oil imports (and thus the optimal tariff), we can calculate the total cost that the economy bears at a market-determined level of oil imports.

BASE CASE

The base case includes nominal assumptions for each of the input parameters specified in the development of the model. The most likely values draw on the literature and the authors' judgment. These values provide the first estimate of the optimal tariff and the cost of a free market policy.

In addition to these parameters, the base case specifies the probability distribution for oil supply interruptions over possible interruption sizes. For purposes of the sensitivity analysis, we consider four different views of the probability of one-year long interruptions of 1 mmbd, 3 mmbd, and 6 mmbd for the United States. In Table 1, we characterize the decade probabilities of one or more such interruptions for each of these world views.

TABLE 1

DECADE PROBABILITIES

ONE YEAR INTERRUPTIONS[17]

World View	1 mmbd	3 mmbd	6 mmbd
W0	.0	.0	.0
W1	.50	.10	.05
W2	.75	.30	.05
W3	.95	.50	.20

Hence, under world view one (W1) there is a 50 percent chance of at least a 1 mmbd interruption to the United States. Since the United States would face only a portion of the world loss of supply, this corresponds to a loss of from 2 to 3 mmbd in the world. The chance of the very large interruption, 6 mmbd for the United States and 12 to 18 mmbd for the world is 5 percent over the same decade. This 5 percent probability over a decade is the same as predicting an average of one such large interruption every 200 years.

The last three world views correspond to increasingly pessimistic views of the likelihood of oil supply interruptions. The zero case (W0) provides a benchmark from which to separate disruption effects from the other constituents of the oil import premium. The nominal assumptions adopt world view two (W2).

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[17] Values correspond to disruption sizes before use of the SPR is taken into account.

HIGH PRICE

The combination of these base case assumptions produce estimates of the optimal tariff and the cost of a free market policy. Using a price of $27 per barrel to represent the high price case, estimates are:

Economic Tariff: $ 3.25
Security Tariff: $ 7.78

Combined Tariff: $11.03/barrel

Cost of free market policy: $12.44 billion/year

LOW PRICE ESTIMATION

The first sensitivity test takes the base case parameters but changes the assumption for oil prices. Specifically, we assume that imports are supplied for $15 rather than $27 per barrel. Starting at this new price level, which implies that, under the model, the market is at a disequilibrium, we solve for the equilibrium levels where domestic demand, domestic supply and import supply balance. The solution produces a higher tariff and a higher cost of a free market policy:

Economic Tariff: $ 5.48
Security Tariff: $ 7.07

Combined Tariff: $12.55/barrel

Cost of free market policy: $25.77 billion/year

The lower price increases demand, which in turn raises the expected level of imports, and increases the economic component of the premium more than it decreases the security component. Hence, although some of the costs are reduced with the lower oil price, under the base case assumptions the effect of lower oil prices is to raise the size of the optimal tariff.

SECURE IMPORTS

The estimate of the optimal tariff includes both economic and security components of the premium. Naturally a reduction in the risk of oil supply interruptions should have a beneficial effect for oil consumers and, thereby, lower the optimal tariff. However, as argued above, changes in the size of one element of the premium can change the size of the other elements. There is a feedback effect. The interaction may cause the various elements to shift so that the aggregate change in the optimal tariff is less than the change in its individual components.

The total optimal tariff under the condition of no oil supply interruptions is larger than the economic component of the tariff in the base case. With the high price case and the extreme assumption of no threat of supply interruptions, the estimate of the optimal tariff, and the cost of the free market policy, would change to:

Economic Tariff: $ 5.08
Security Tariff: $ 0.00

Combined Tariff: $ 5.08/barrel

Cost of free market policy: $ 2.43 billion/year

It is clear that the simultaneity and complementarity between the economic and security components of the premium imply a significant optimal tariff even if security problems are eliminated.

RISK ANALYSIS ESTIMATION

These few sensitivity tests illustrate the principal responses of the optimal tariff calculation to changes in the input assumptions. The high and low oil price cases, or the secure world oil market scenario, produce changes in the estimate of the optimal tariff. However, the optimal tariff still continues to be a large fraction of the price of oil and large relative to any tariff that might be considered politically acceptable. Unfortunately, the few sensitivity tests do not exhaust the major uncertainties that could affect the size of the optimal tariff. Higher or lower assumptions about inflation could have a significant impact on both the quantity of oil imported and the estimate of the optimal tariff. Similarly, changes in elasticity estimates, alternative views about the probability of interruptions, or uncertainties in any of the other parameters could alter the optimal import tariff estimate.

It is not possible to examine all potential combinations of the long list of important input parameters. The number of scenarios would quickly exhaust our capacity to absorb the data. As an alternative, therefore, a "risk analysis" of the optimal tariff estimate captures a range of possible tariff policies that should be considered, given our uncertainty in the input parameters.

Under risk analysis, the analyst specifies the uncertainties in terms of probabilities for different values of the input parameters. For instance, we assume the most likely estimate of the aggregate demand elasticity is 0.5. This demand elasticity reflects the estimates from a variety of studies, some of which produce higher values and some of which produce lower values.[18] For purposes of the sensitivity analysis, it is easy to argue that there is a significant chance that the elasticity could be as high as 0.7 or low as 0.3. A wider range is possible, but in our view highly unlikely: the principal range of uncertainty should be captured by these values. The probability that the elasticity will be as high as 0.7 or as low as 0.3 is not as great as the probability that the most likely case is correct. Using our judgment, we assign probabilities of 30 percent to the elasticity of 0.7, 50 percent to the elasticity of 0.5 and 20 percent to the elasticity of 0.3. A similar probabilistic analysis across the range of possible values for the other key inputs establishes a probability distribution for all of the uncertain parameters; see Figure A.1 in the Appendix.

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[18] See, for example, Douglas R. Bohi, Analyzing Demand

Table 2 shows the probability included using this risk analysis and focusing on the key sensitivity test between low and high oil prices.

Behavior: A Study of Energy Elasticities (Baltimore: Resources for the Future/Johns Hopkins University Press, 1981).

TABLE 2

OPTIMAL TARIFF AND COST OF FREE MARKET POLICY PROBABILITY DISTRIBUTIONS

High price case ($27)

	Lower 25%	Median	Upper 25%	Expected Value
Economic Tariff	1.95	2.85	3.90	3.14
Security Tariff	3.63	5.64	8.52	6.44
COMBINED TARIFF ($ per barrel)	7.00	8.96	11.26	9.58
COST OF FREE MARKET POLICY ($billion/year)	4.64	8.24	13.18	10.60

Low price case ($15)

	Lower 25%	Median	Upper 25%	Expected Value
Economic Tariff	4.03	5.68	6.87	5.86
Security Tariff	2.80	4.20	6.65	5.23
COMBINED TARIFF ($ per barrel)	8.71	10.81	11.89	11.09
COST OF FREE MARKET POLICY ($billion/year)	11.72	17.90	27.93	22.44

SUMMARY

The optimal import tariff balances all the costs and benefits of oil imports. Although any operational estimate of the tariff will depend upon an array of assumptions and judgments, it is possible to make these judgments and organize them in an internally consistent set of calculations. These estimates quantify the several possible sources of market failure which prevent private actors from recognizing the true costs of the marginal barrel of oil imports. The resulting tariff estimates are sensitive to the assessment of market conditions, but this sensitivity appears to be much less than is commonly believed. There is a significant amount of interaction among the tariff components. A change in assumption which reduces one element tends to produce a compensating increase in others, and the whole is less sensitive than the parts.

This complementarity and the numerical results provide a guide for action. The size of the tariff is large. Our preferred set of assumptions sets the optimal tariff at between $10 and $11 per barrel. Under the High Price case, there is a 75 percent chance that the optimal tariff is at least $7 per barrel. And under the Low Price case, this estimate to an optimal tariff of at least $8.70 per barrel. When compared with the usual political discussions, where an adventuresome conversation involves tariffs that are half this range, the direction of policy is clear: higher tariffs can be justified. Based on the estimates of market failure, a figure in the range of $7 per barrel and $9 per barrel is as low as can be supported by the analysis and the judgments on the range of uncertainty in the parameters.

IV. POLICY ISSUES

COMPARISON OF TARIFF INSTRUMENTS

The form of a U.S. tariff on imported oil could vary across a range of alternatives. Several issues should be discussed in this regard. Perhaps the most important is whether the tariff should be set as (i) a simple fixed fee, (ii) a variable fee, or (iii) a fee defined in proportion to the price of oil. Other issues having to do with the form of a tariff concern the relationship between crude and product tariffs and adjusting the magnitude of a tariff to changes in the general price level.

Fixed versus Variable versus Ad Valorem Tariffs

A fixed tariff is the simplest instrument. Given a political decision on the optimal level of oil imports and the optimal tariff, we establish a fixed price as the tariff, say $10 per barrel. Each purchaser of a barrel of imported oil pays a $10 fee in addition to the price. If the price of oil goes up or down, the tariff stays the same. Hence, as a percentage of the price of oil, the tariff will vary as the price of oil varies. However, the tariff is simple to understand and explain and, with the reasonable estimation of the size of the tariff, can capture most of the long run benefits.

The principal alternative to a fixed dollar amount is a fixed percentage tariff. Here the tariff might be set as 60 percent of the price of oil. If the price of oil rises, the absolute value of the tariff would increase. And as the price of oil fell, the absolute value of the tariff would fall. The chief advantage of the fixed percentage tariff, sometimes known as the *ad valorem* tariff, is in preserving the incentives for foreign oil producers. Faced with a constant percentage tariff, producers would not see any incentive to raise the price of oil, because this would raise the tariff and more than proportionately decrease demand. Conversely, lowering the price of oil would lower the absolute tariff and compensate for the lost revenue by increasing demand more than proportionally than the tariff change.

Although the long run incentives are right for the ad valorem tariff, it carries with it a special problem during interruptions.[19] In the face of a sudden loss of supply, with a sharp increase in price, the optimal short-run policy would be to reduce or eliminate the tariff. Yet it is difficult to imagine the administrative system responding rapidly enough to adjust the size of a tariff during an interruption. The danger of the ad valorem tariff is that we would see an automatic increase in the size of the tariff at just the time when such change would do the greatest macroeconomic damage. Compared to the fixed tariff, therefore, the ad valorem tariff does a poor job of approximating the optimal policy during interruptions. Furthermore, our sensitivity analysis suggests that the size of the optimal tariff, although not constant in real dollar terms, is far from constant in percentage terms. As a simplified approximation to the sensitivity analysis of different oil prices, therefore, we conclude that the fixed tariff would be preferred to the ad valorem tariff.

A third variant of the type of tariff often proposed is to create what is known as a "variable" tariff that sets a target price for domestic oil.[20] By this argument, there is an optimal domestic price, say $25 per barrel, which will provide adequate development of domestic supply and provide some protection against insecure imports. The tariff would be set at the difference between this target price and the world price. Hence, if the price of oil is $15 on the world market, and the target price is $25, then the tariff would be set at $10. If the world price rose to $20, the tariff would fall by $5, and so on.

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[19] Note the change in argument from William W. Hogan, "Import Management and Oil Emergencies," in Energy and Security, David Deese and Joseph S. Nye, eds., (Cambridge, MA: Ballinger, 1981); and William W. Hogan, "Oil Gluts and Oil Tariffs," Discussion Paper #H-82-04 (Cambridge, MA: Energy and Environmental Policy Center, May 1982), which neglected the problems of the different tariff instruments during an interruption.

[20] The case for the variable tariff appears in S. Fred Singer, "The Case for a Variable Import Fee on Oil,"

Although this proposal has an appeal if the purpose of the tariff is to protect domestic suppliers and guarantee them a minimum price, it is inconsistent with the general argument about externalities of oil imports developed in this paper. The problem is not any particular level of domestic supply; the problem is to internalize the costs of oil imports. As our sensitivity analyses show, this externality or optimal premium for oil imports does not fall dramatically as prices rise, nor does it rise dramatically as prices . fall. Hence the variable tariff as proposed, with the price threshold, works only when prices are well below the threshold.

The second difficulty with the variable tariff is in deciding on the optimal threshold. There is no framework for selecting the tariff except that provided by a view of promoting or protecting domestic suppliers. With the optimal tariff framework, however, protection of domestic suppliers is incidental to the analysis, not the direct purpose.

A third difficulty with the variable tariff is the perverse incentive provided to oil suppliers in the world market. To the extent that foreign producers can manipulate the market in order to extract higher rents, the var-

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Georgetown University Center for Strategic and International Studies, June 1986.

iable tariff guarantees no penalty for raising prices. Higher world prices result only in a reduction in the size of the tariff, not in a reduction in the price paid by the domestic market. Hence, higher world prices result in no reduction in demand by the United States. To the extent that this protection of the market removes the constraints on producers, it tends to promote and subsidize higher world oil prices for all customers. The incentives, therefore, work exactly against the reduction of cost for the United States. Despite the simplicity of its preference for domestic production, the variable tariff works at the margin to reduce the welfare of the United States. Depending upon the final reaction of foreign oil producers, and the aggregate size of the tariff, therefore, the variable tariff may provide significantly lower benefits than the ad valorem or fixed fee alternatives.

On balance, therefore, the simplest and most straightforward approach is to levy a fixed fee on each barrel of imported oil. This provides approximately the right incentives at the margin, provides the closest simple approximation to the optimal tariff calculations revealed by our sensitivity analyses, and avoids the difficulties of managing the macroeconomic costs during an interruption.

Product Tariffs and Inflationary Adjustments

Of course, even this approach is not without its details that gradually erode the simplicity of the concept. For example, in a world of high inflation, the fixed tariff should be set in real terms, indexed to adjust with the level of inflation. Furthermore, a tariff on crude oil implies the necessity for a corresponding tariff on imported products. The tariff on products should reflect the increased costs of crude oil to avoid creating incentives for importers to switch from crude to products but not change the total volume of oil imports. Hence, the product tariff should reflect the increase in crude oil costs implied by the crude oil tariff. These and other modifications would be found in any real tariff proposal, but the basic arguments remain. The fixed fee appears to be the best combination of simplicity and close approximation of the optimal tariff policy.

TARIFFS AND FREE TRADE

The struggle to reduce trade barriers and promote world economic growth through expanded trade flows has been a hallmark of modern economic policy. Despite the many continuing barriers to trade, the presumption in favor of free trade has been a central component of official rhetoric. Practical experience with excessive trade limits and the theoretical arguments of comparative advantage all point to the economic benefits available through expanded trade.[21] It follows, therefore, that any argument for a U.S. oil tariff must bear a heavy burden of proof:

> "A majority of economists have consistently favored letting nations trade freely with few tariffs or other barriers to trade. Indeed, economists have tended to be even more critical of trade barriers than have other groups in society, even though economists have taken great care to list the exceptional cases in which they feel trade barriers can be justified. Such consistent agreement is rare within the economics profession."[22]

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[21] For a review of the unhappy history of general trade restrictions and the theory of economy health through free trade, see any of the standard texts, e.g., Peter H. Lindert and Charles P. Kindleberger, International Economics, Richard D. Irwin Company, Homewood, Illinois, (7th edition), 1982; or R. E. Caves, World Trade and Payments, Little, Brown and Company, Boston 1981.

[22] Peter H. Lindert and Charles P. Kindleberger, International Economics, Richard D. Irwin Company, Homewood, Illinois, (7th edition), 1982, p.111

Despite the nearly universal assumption in favor of free trade, theorists in international economics have long recognized that exceptions to the rule of free trade may exist for particular commodities and countries. The subject of the 'optimal tariff' has a long history:

> "The theoretical literature on this subject is vast, and the lineage is ancient."[23]

Although aggregate world economic welfare may be lessened by tariffs or other trade restrictions, the welfare of an individual country may be expanded through the pursuit of such policies. The exceptions are unusual and depend on a number of special circumstances, but the exceptions are an integral part of the theory of international trade. They center on the existence of market imperfections such as externalities and monopolistic or monopsonistic market structures. When such imperfections exist, uninhibited trade may not maximize the welfare of the country. Hence there can be an unrecognized cost of following a free market trade policy. Intervention in the market to restrict trade could lower or eliminate these costs.

Examples of such imperfections in the literature on international trade are many, including everything from arguments for protecting the development of infant or strategic industries to the use of trade restrictions to compensate for market distortions created by the actions of other countries. In fact, arguments in support of free trade build on the notion that if one country restricts trade in a particular commodity then other countries can be expected to respond. If the market is not operating according to the competitive ideal, an opportunity is created for individual countries to increase their aggregate economic welfare by intervening in the free trade of that commodity.

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[23] W. M. Corden, Trade Policy and Economic Warfare, Clarendon Press, Oxford, 1978, p. 159.

Notable in the international trade literature is that the principal example of an exception to the rule of free trade is the case of oil. Oil markets have violated the general proposition that producers acting collectively cannot long restrict output and capture significant rents. By now, standard international trade texts cite oil as the principal commodity where a tariff may well be in the interest of the consuming countries. For example, Lindert and Kindleberger argue that

> "OPEC has gained far more than John D. Rockefeller's Standard Oil Company or any other monopoly or cartel ever did. This judgment would stand even if OPEC were to break up tomorrow and start slashing its prices competitively."[24]

> "No other cartel has yet approached the resounding success of OPEC. Before OPEC, the average life expectancy of cartels had been so short that the economic analysis of cartels tended to stress the inevitability of their collapse. The usual analysis has correctly pointed to pressures that tend to make cartel power erode, as some cartel members defect and turn competitive and as some buyers find ways of avoiding purchases from the cartel. One of the central tasks of international economics is to reconcile this presumption that cartels inevitably fail with OPEC's continuing success."[25]

> "If the United States could force the members of the OPEC oil cartel or some other potentially hostile foreign suppliers to sell at a lower price by imposing a tariff, then the tariff is in the U.S. national interest."[26]

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[24] Peter H. Lindert and Charles P. Kindleberger, International Economics, Richard D. Irwin Company, Homewood, Illinois, (7th edition), 1982, p.6

[25] Peter H. Lindert and Charles P. Kindleberger, International Economics, Richard D. Irwin Company, Homewood, Illinois, (7th edition), 1982, p.190

[26] Peter H. Lindert and Charles P. Kindleberger, International Economics, Richard D. Irwin Company, Homewood, Illinois, (7th edition), 1982, p.150

Clearly, the received literature recognizes that an opportunity may exist for a welfare-improving tariff on U.S. oil imports. Still, the pursuit of such a policy requires greater justification. What characteristics, more or less unique to oil and oil markets, warrant departure from the economists' preference for free trade? First, as we have argued above, oil is an important enough commodity to affect our balance of trade, the path of inflation, and if supply is interrupted, the welfare of our citizens and our national security. For the past decade, oil has constituted about 26 percent by value of imports, and total consumption of oil and closely related products amounted to about 9 percent of GNP.[27] Second, as the premium analysis demonstrates, significant externalities are associated with the importation of oil. If the price of imported oil reflected true social costs, there might be no need for government to intervene in the market. But as we have seen, the (private) price and the social cost of imported oil differ. The larger this difference, the greater the cost of the current free market policy in U.S. oil trade. The greater the cost of this policy, the more compelling the case for intervention through the imposition of an oil tariff.

TARIFFS AND THE LIMITS OF POLICY

Even accepting the special nature of the oil market, objections to a U.S. oil tariff may flow from conflicting policy goals, criticism that the market analysis is overly simplistic, or practical political limitations. The principal objections fall into three general categories: (i) oil market imperfections are relatively small and, therefore, there is no significant saving by trying to correct them; (ii) other trading arrangements will be compromised and, therefore, there are costs created elsewhere despite gains in the oil market; and (iii) government programs to intervene in a market often go awry and an oil tariff will be part of this pattern, i.e., such a tariff will produce more costs than benefits.

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[27] U.S. Department of Energy, Annual Energy Review, various years.

Each of these arguments has merit. The first, dealing with the measurement of market imperfections, is the subject of much of this paper. The bulk of our analysis points to significant imperfections and large external costs associated with the current U.S. free trade policy in oil. However, to the extent that there is disagreement with these estimates, a demanding standard is created for the objectors, given the robustness of our results.* While there is room for debate here, the strongest case against a U.S. oil tariff lies elsewhere.

The second objection emphasizes linkages between U.S. oil trade policy and U.S. trade policy in general. Even if there are significant market imperfections associated with oil imports, opponents of a U.S. oil tariff argue that adoption of such a tariff would trigger a reaction in the trade policies of other countries. Foreign oil producers will respond by lowering production and raising prices, despite falling demand, and traders in other goods will use the precedent of a U.S. oil tariff to support similar restrictions on, for example, lumber, computers or automobiles.

*The orthodox optimal trade argument is concerned about maximizing national income; world income as a whole is reduced, but at the same time is redistributed towards the trade-restricting country... The simple model assumes that foreign tariffs are given and that foreign governments will happily stand by and allow income to be redistributed against them... one might assume that if our country does not impose a tariff the foreign country will not do so either, but that the adoption of orthodox optimum tariff policy by us will provoke foreigners to embark on the same policy. Thus we we would start with free trade, and once we abandon it

> would provoke the reaction process...There is an element of 'retaliation', the foreign country retaliating by initiating the reaction process."[28]

There is a danger here. If oil trade policy has a significant effect on all trade policies, then the cost of the current U.S. free market policy in oil may be the price we have to pay for free trade in other goods. A few of our oil trading partners have substantial additional trade with us. For example, a large percentage of U.S. non-oil imports come from Canada. If this trade would be adversely affected by a tariff on oil imports, then the linkage may be important. In this case, there will be pressures for exemptions from the tariff for certain producers.

If foreign oil producers respond to shrinking markets by raising prices or retaliating in other ways, then our oil trade policy faces still another market imperfection that may balance the cost calculations of a free market policy discussed above. Such a response by foreign oil producers has been suggested:

> "Such a vociferous demand for the imposition of trade restrictions, on account of low prices, as is currently prevalent, could constitute an invitation to producers to raise prices again, to restore them to their former levels."[29]

But to the extent that use of an oil U.S. tariff can be made to be seen only as a response to the initial restrictions on oil trade by foreign producers and the special instability of world oil supplies, and U.S. oil trade policy can be separated from other U.S. trade decisions, then the argument for a tariff based on measured external costs should prevail. The determination of whether such a separation of oil trade policy from general trade policy can be achieved involves a largely subjective judgment and one that is crucial to choosing the correct U.S. policy toward oil imports. But the danger of adverse consequences in other markets, even it it materializes, does not dispose of the argument for an oil tariff. Such a reaction is merely one of the costs of an oil tariff, to be weighed against its benefits.

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[28] W. M. Corden, Trade Policy and Economic Warfare, Clarendon Press, Oxford, 1978, p. 172-173. (emphasis in the original)

[29] Ahmed Zaki Yamani, "Oil Markets, Past Present and Future", speech delivered at Harvard University, Energy and Environmental Policy Center Symposium in conjunction with the 350th Anniversary celebrations, September 4, 1986.

The final, and oft repeated, criticism of an oil tariff raises the specter of policy implementation that falls far short of the lofty ideals of policy design. As we discuss more fully below, an oil tariff would have a significant impact on the economy. There would be wealth transfers from domestic consumers to domestic producers of oil. Industries dependent on oil as a feedstock would face higher costs and more difficult competitive pressures in the world market. Each of these affected groups could be expected to ask for special consideration. There would also be requests for tariff exemptions for particular oil suppliers, especially secure suppliers in the Western Hemisphere.

In general, the more exceptions, the less the negative impact of a tariff. But, too, the more exceptions the less the economic saving produced by a tariff. The induced adjustments in consumption and production are the source of the economic benefits of a tariff and, therefore, any policy which exempts consumers and producers from making adjustments will correspondingly reduce these savings.

From a strongly ideological perspective, these arguments about the pressures for exemptions and exceptions generalize into a presumption that the bureaucratic detail of a tariff will create too many opportunities for special interests — in other words, government cannot implement such a policy without causing more harm than good. Or the intervention now will create a precedent for other interventions later, repeating the drama of the mid 1970s when price controls subsidized oil imports. Although there is certainly truth to the position that the tariff instrument actually employed would not match the pristine ideal suggested by our analysis, this judgment must be tempered in part by size of the optimal tariff and the magnitude of the savings from avoiding a free market policy. If the optimal tariff is large and the savings are significant, then a less than perfect implementation should still produce net economic benefits.

Nevertheless, the possibility of extensive exemptions and exceptions raises a significant problem. Our analysis of the optimal tariff assumes these special appeals will go unheeded.[30] A large number of exemptions and exceptions or a very small tariff, would result in little gain for the economy as a whole. In that case, the fear of the costs of the impact of such a precedent on broader trade policy might carry the day. The challenge is to implement a tariff without avoiding the economic adjustments that a tariff is intended to achieve. If by assumption this adjustment process is simply too hard in the real world of the politics of special interests, then by assumption the tariff is a bad policy.

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[30] Any exemption program involves a transfer of rents which may reduce the overall welfare of the nation. But it is possible to design the exemptions to preserve most of the incentives at the margin, thereby preserving the benefits of lower exposure to macroeconomic problems and oil supply interruptions. The key feature would be to limit the exemptions to inframarginal oil imports.

COSTS AND BENEFITS

The most obvious effect of an oil tariff would be to raise the price of oil to domestic consumers. How could an increase in the price of an important product result in a net economic benefit for the country as a whole? This is a reasonable question and a major obstacle to those who argue in favor of an oil tariff. In addition to raising the cost of oil to domestic consumers, an oil tariff could produce major shifts in income flow between consumers and oil producers, both domestic and abroad. These major transfers could be significantly larger than the aggregate change in the total cost for the economy. Recognizing these effects, it is important nevertheless to separate out the real resource costs from the change in the wealth position of different groups in the economy.

Domestic Distribution

The market imperfections reflected by the oil import premium create real resource costs. Higher levels of inflation, greater economic disruptions, and so on, are economic factors that have a significant impact on the general economic well-being of the country. However, almost by definition, these imperfections are invisible to the individual consumer. The consumer sees the price paid directly for the oil but does not see the impact on macroeconomic performance or changes in the overall costs of oil supply interruptions. If the consumer did see these costs, they would be internalized, and then there would be no premium. Hence, any argument for market intervention and a reduction in total cost through the use of a tariff is inherently involved in the trade-off between the visible cost of the price paid for the oil and the invisible but real costs of the premium.

The import premium framework takes the perspective of maximizing the economic benefit to the nation as a whole and recognizes that an increase in the price of oil from imposing a tariff has several effects. The price increase has the direct effect of reducing the economic welfare of the ultimate consumer. There is a transfer payment to domestic oil producers which increases their economic welfare. And there is a macroeconomic effect wherein output is expanded and the balance of trade is improved, both to the benefit of producers and as well as consumers. Our calculation of the optimal tariff suggests that the direct cost to consumers is less than the direct benefit to producers plus the indirect benefit to the economy as a whole. As members of the larger economy, consumers enjoy the indirect benefits. To the extent that consumers are beneficiaries of the higher profits of the oil industry, either through their role as taxpayers -- the higher profits flowing to the government in increased tax payments — or through their ownership position (either directly or through intermediate vehicles such as pension systems), consumers receive the benefits that flow to producers. In the aggregate, of course, producers and consumers are the same people. Hence the transfer payments net out and the increase and the indirect benefit of moving from the free market policy expands the economic welfare of the nation as a whole.

In our estimation of the optimal premium we calculate this indirect benefit, the difference between the social and private costs of imported oil at the margin. On average, the costs for oil imports will be significantly lower than the calculation at the margin. Hence, in estimating the total net benefit of abandoning a free market oil import policy, the analysis must account for changes in the optimal premium at different levels of oil imports. Our calculations suggest that the aggregate benefit to the economy of imposing the optimal tariff could be substantial. In the high price case, i.e., at $27 a barrel, when oil imports are relatively low, the benefits of moving to the optimal tariff are approximately $12 billion dollars per year. In the low price case, i.e., at $15 a barrel, when oil imports tend to be high, the benefits of the optimal policy are about $26 billion dollars per year. Hence, by imposing the optimal tariff, the United States will realize a savings that is one-third to one-half of the expenditures it makes on imported oil.

International Distribution

Imposing the optimal oil import tariff increases the net economic welfare of the United States. Part of the increase in welfare comes from the improvement of the performance of the macroeconomy during normal times and during interruptions. The tariff, by inducing lower oil imports, lessens the impact of higher oil prices and thereby avoids the pressures to maintain a depressed economy in order to wring out the pressures of inflation. Similarly, reducing oil imports in advance of an interruption lowers the impact of the disruption with the attendant economic recession that imposes such great costs on the nation.

These macroeconomic savings are a straight plus. The benefits accrue to the United States, but they do not come at the expense of other nations. The improved U.S. economic performance flows a more efficient and fuller use of our capital stock and labor force, and this improved performance can only help bolster general economic health in the world. Hence, the avoidance of the costs of disruptions is a positive sum game.

Of course, not all the benefits flow with no costs to others. A significant part of the savings from a tariff comes from a reduction in the payments to oil exporters. In short, both the lower volume of purchases and the expected reduction in the world price contribute to the reduction in total cost to the United States, but at the expense of oil exporters. For many oil exporters, their share in the reduced oil market, at lower prices, will present a significant economic problem. From one perspective, these losses represent only a twist in the competition for economic rents. After all, major exporters are interfering in the market by constraining production and inflating the world price of oil. The rents they would be losing are only the profits of their oligopolistic game. Consumers merely play the same game in the use of a tariff to constrain demand and depress the world price. Morality and fair play provide little guidance in the economic competition for rents. If the ability to exercise market power exists and is used by others, why not shift the losses back on the exporters restricting production?

However, given the broad interests of the United States in dealing with many of the oil exporting countries, ranging from Saudi Arabia to Mexico or even Canada, these losses may be unacceptable. If this is true, then the high payments to oil exporters must be viewed as a benefit to the United States. Or at least the cost must be justified, much like other defense or foreign aid expenditures, as worth the pursuit of larger goals and values. In this case, much as with the support for subsidizing domestic consumers, it might be better to make these payments an explicit part of our foreign policy rather than support the inefficient use of oil imports.

The international redistribution of wealth does not stop with oil exporters. Other importers of oil share in the costs paid by U.S. consumers. The higher the level of oil imports in one country, the greater the cost everywhere. Hence, the Europeans and Japanese are paying the cost of part of our oil imports, and we are paying the cost of part of their oil imports. If the United States imposes an oil import tariff, and reduces its demand, prices will fall for all oil importers. Hence Europe and Japan will enjoy a free ride on our account. This fact has often inhibited progress in capturing the benefits of reduced oil imports. Apparently out of a sense of fair sharing of the burden, there have been arguments that the United States should not further reduce its imports without comparable action by other oil importers. But with cooperation among oil importers, our analysis would support an even larger tariff. A combined oil-importer tariff may well be twice as high as calculated above. However, because of a lack of agreement, no such action is possible, at least at present.

Although it is easy to understand the motivation for resenting the free riders, it is wrong to conclude that we should do nothing without a sharing of the burden. Our analysis of the optimal oil import tariff assumes that the United States acts alone. If it is in our interests to reduce our oil imports, it should not concern us that it helps others as well. In fact, since the other major oil importers are our allies in many other respects, we might veiw their free ride as an added benefit of our oil import reductions.

For those who fear that we might go too far in imposing an oil import tariff, an analysis of the effects of tariff policies in other countries only reinforces the analysis here. As shown in elsewhere,[31] oil import tariffs in other countries tend to decrease the world price of oil and, therefore, to increase the demand for oil in the United States. Hence, the larger the tariff in other oil importing countries, the larger the optimal tariff for the United States. Consideration of the interactions with other oil importers only raises the estimate of the optimal tariff already at the bounds of political possibility. Hence the fact that other consumers gain something should not stand in the way of the pursuit of the optimum U.S. policy.

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[31] H.P. Chao and S. Peck, "Coordination of OECD Oil Import Policies: A Gaming Approach," Electric Power Research Institute, 1980.

Of course, it should be pointed out that many of our allies already have in place price instruments which reduce significantly their oil consumption, for example, steep gasoline consumption taxes. In this regard, they are ahead of any U.S. policy that imposes a tariff on imported oil.

Other Oil Reduction Policies

Given the existence of the premium, to the extent that the actual tariff falls short of the optimal level, there is room for additional policies to reduce the demand for imported oil.[32] Conservation regulations, such as the automobile efficiency standards, or domestic subsidies for production of new (non-oil) energy technologies, may well be justified. To the extent that oil demand reductions or non-oil supply expansions cost less than the market price plus the premium, there is a case for government intervention to promote reduced oil import demand. The most direct route would be through the tariff, but to the extent that politics and institutions block the way, other approaches should be pursued, to the extent that they are demonstrably cost effective.

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[32] This discussion assumes the existence of an optimally-sized SPR, i.e., one devised in line with the premium.

V. IMPLEMENTATION ISSUES

Whatever tariff instrument is selected by the Congress and the President, there will be a variety of issues related to the best way to implement it. The most directly affected parties will raise a large number of questions in this regard. In an effort to anticipate these questions, we review the principal issues: the effect of a tariff on the U.S. competitive position, exemptions, transition costs, and use of the collected revenues.

COMPETITIVE POSITION

The most energy- and oil-intensive industries in the United States will face increased raw material costs following the imposition of a tariff. For example, petrochemical plants which depend upon oil as a primary feedstock will see a significant increase in the costs of their inputs. The increase in costs will reduce or eliminate any competitive advantage that these companies have in the international market. If producers of the same petrochemical products in other countries do not face a similar tariff, then they can sell their products at prices that will be lower than those that could be charged by U.S. petrochemical producers.

This evident fact will be characterized as a loss of competitive position for the United States. While true, the description of this as a "loss of competitive position" disguises the true problem. If these oil-intensive industries are now purchasing oil and paying a private cost which is less than the social cost, then the difference, — the oil import premium — amounts to a subsidy from society as a whole to this particular industry. In short, if a company is buying oil at $15 and producing products which are competitive at $15, but the cost to the country for the same oil is $20 or $25, then this is a bad business for the nation as a whole.

In the process of internalizing the external social costs, the country will reduce the use of crude oil and related products. This will come in part because goods and services produced with those products are not worth the cost that has been internalized. As painful as this will be for the industries that need to adjust, the adjustment is part of the problem of eliminating the subsidy and lowering the total cost to society. Hence, proposals for granting exceptions for U.S. manufacturing exporters who face suddenly higher crude oil costs amount to no more than a request that the implicit subsidies for those exports now be made explicit. As a matter of national policy the country may decide to continue these subsidies. But it is better to make these subsidies explicit for the targeted industries rather than to continue the subsidies for all.

EXEMPTIONS FOR FOREIGN SUPPLIERS

U. S. oil imports come from a variety of sources. Not all sources of supply are equally vulnerable to disruption. Furthermore, many oil producing countries are our allies and depend heavily on oil revenues. It stands to reason, therefore, that there will be proposals to exempt certain sources from paying an import tariff to the United States. These separate arguments, the difference in supply security among foreign oil producers and the economic interests of these producers, have separate implications for the design of a U.S. oil tariff.

The differences in supply security matter relatively little. Oil is a fungible good. Hence, the particular source of supply to the United States has little impact on the cost or security of oil imports at the margin. Even if the United States had no direct imports from unstable sources of supply, and all imports came from countries which would continue to produce no matter what the state of the market, the problem of security would remain. During an oil supply interruption the oil produced in secure countries would be diverted to other countries to replace oil lost as a result of the disruption. At the margin, therefore, all sources of supply in world trade can be thought of as subject to the same security risk. Hence, from the security perspective, all sources of supply should be subject to the same import tariff.

Although the security argument cuts against exempting certain suppliers from an oil tariff, the economic rent transfer argument could work the other way. To the extent that oil prices drop as a result of a fall in U.S. consumption, induced by a tariff, all oil in world trade would be affected by the imposition of a tariff. This transfer of wealth, in fact, is part of the gain for the United States. For many producers, this transfer of wealth could be significant, and it could create problems for the United States.

The effect of granting certain oil producing countries an exemption would be to transfer income from the United States to these countries. Foreign oil suppliers exempted from the tariff become similar to domestic oil suppliers.

Foreign suppliers favored with tariff-exempt oil would see the value and the price of that oil in the U. S. market rise to include the world price plus the tariff. Hence, just as domestic oil producers would enjoy higher prices and a transfer of wealth, so, too, would the exempt supplier to the import market. Since part of this transfer has been counted as a net gain to the United States, it is clear that any exemptions alter the calculation of the optimal tariff.

From one perspective, if we think of the transfer to the favored foreign supplier as a cost to the United States, the exemption reduces the benefits of a tariff and correspondingly lowers the size of the optimal tariff. On the other hand, presumably the reason for the exemption is to transfer a benefit to the foreign supplier. In this case, the exemption is similar to starting with a lower assumed level of oil imports. In either case, however, the net effect of the exemption is to reduce the size of the optimal oil tariff. In the extreme case, where the exemptions are so large as to replace all oil imports, the tariff is ineffective. With smaller, inframarginal exemptions, there would be little effect on the measurement of the tariff at the margin.

As we noted above, our calculation of the optimal tariff assumes there will be no exemptions. Introduction of exemptions lowers the benefits of a tariff and creates problems in its implementation. But our analytic framework has the advantage of being able to accommodate such exemptions, and to provide guidance as to the necessary adjustments in the optimal tariff.

TRANSITION COSTS

Our calculation of the optimal U.S. oil tariff is a comparative static analysis. The calculations compare the average economic and security conditions with and without a tariff. Hence, the analysis focuses on long-run conditions and is silent on the transition. But imposition of any tariff will create costs during the process of adjustment to the selected tariff level. The addition of a tariff to the price of oil creates a one-time shock to the aggregate price level. Hence, although a lower level of oil consumption may reduce the impacts of higher oil prices on inflation in the long run, the tariff itself increases the effect of oil inflation in the short run.

The adjustment of consuming industries could lead to transition costs in the form of (unwanted) unemployment. If the petrochemical industry is not competitive even at variable cost, then workers in that industry will be searching for new jobs. Our optimal tariff calculation makes the usual heroic assumption of a frictionless adjustment in which these workers find employment quickly and their wages reflect their productivity. Perhaps they shift to meet the expanding demand for labor in the domestic oil industry that will experience transition benefits in addition to long-run benefits that accrue from a tariff. Nonetheless, these costs are real and will create significant political pressures for modification of a tariff or exceptions as noted above. However, they are one-time costs as opposed to the continuing costs of a free market oil trade policy. Hence, the assumption underlying our analysis is that these transition costs are modest compared to the long-term benefits of a tariff.

In the short run, comparison with what might have been today may be less relevant than comparison with what was only yesterday. Given the natural tendency to compare current oil prices against those of the past, and not against foregone opportunities, this period of low prices offers the best moment to adopt a significant oil import tariff. With oil prices at a low level, and the economy adjusting to the change from higher prices, there should be relatively little transition problem if a tariff is imposed before oil prices would start to rise again. In the circumstances which motivate this appraisal of imposing a tariff, transition costs are a less significant problem than in previous years where the objection carried the day despite similar analysis about the long-run oil import premium.[33]

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[33] See Harry G. Broadman, "Review and Analysis of Oil Import Premium Estimates," Discussion Paper D-82C, Energy and National Security Series, Resources for the Future, Washington, D.C., December 1981; and William W. Hogan, "Import Management and Oil Emergencies," in Energy and Security, David

REVENUES

Taxes and tariffs have an important revenue-raising function in addition to their policy impacts. For the most part, the assumption is that taxes and tariffs have negative incentive effects which should be moderated but nonetheless are necessary in order to raise revenues. Interpretation of the present analysis suggests that an oil tariff has the advantage of raising revenues and promoting optimal policies for maximizing the welfare of the United States. Hence, the revenues from such a tariff are an added benefit that can be applied to a variety of uses.

The sources and magnitudes of possible revenues present a separate, complicated analysis of the impacts of an oil import tariff. Such a tariff would raise tax payments of domestic oil producers, reduce tax payments of oil-consuming industries, cause shifts in employment patterns which would have short- and long-run effects on social security and other transfer payments, and so on. There are a number of possible uses for the revenues raised. One possibility is to finance further purchases of oil for the SPR. Another is to help alleviate U.S. federal budget deficits. The latter has generated the greatest interest.

Estimates of how much revenue would be raised for the federal budget have been the subject of several detailed studies. For example, the Congressional Budget Office prepared an extensive analysis of a $5 and $10 oil import tariff that could have been applied starting in 1982.[34] More recently, in light of the changed economic conditions and lower world oil prices, the CBO prepared a new analysis of these same revenue effects.[35] These studies suggest that a tariff could raise a significant amount of revenue. However, the total amount would be much less than might be expected. For example, with approximately 6 million barrels per day of oil imports and a $10 tariff, we might expect that this would produce about $22 billion per year, by multiplying the tariff times the volume of imports. However, as estimated by the CBO, the net revenue benefits for the federal budget come after deducting other compensating effects and impacts on transfer payments. As a result, net revenue would be in the range of about $8 billion to $12 billion.[36]

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[34] Congressional Budget Office (CBO), "Oil Import Tariff's: Alternative Scenarios and Their Effects," Staff Working Paper, Washington DC, April 1982.

Overall, our analysis is silent on the use of tariff revenues. They are included as part of the aggregate welfare calculation, and the implicit assumption is that they will be used in the best interests of the country.

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[35] Congressional Budget Office, The Budgetary and Economic Effects of Oil Taxes, April 1986. See also the Department of Energy, The Impact of Lower World Oil Prices and Alternative Energy Tax Proposals on the U.S. Economy, Energy Information Administration, April 18, 1986.

[36] Congressional Budget Office, The Budgetary and Economic Effects of Oil Taxes, April 1986, p.15.

VI. HISTORY OF U.S. OIL TARIFF POLICY

U.S. imports of oil actually have been subject to a tariff for more than fifty years.[37] In 1932, to raise general federal revenues, Congress passed the Revenue Act.[38] Among the taxes introduced into the Internal Revenue Code by the Act was a flat "excise tax" of $0.21 per barrel of all imported crude oil.

In 1940 a crude oil quota system was established that was linked to the excise tax schedule. This reflected a trade agreement with Venezuela, which reduced the tax on crude to $0.105 per barrel, provided that imports did not exceed a quota of 5 per cent of the previous year's refinery runs. Above the quota, the $0.21 per barrel rate still applied. This quota system prevailed through 1942.[39]

Beginning in 1943, as a result of a trade agreement with Mexico, the tariff rate on crude oil was reduced to a simple $0.105 per barrel. This lasted until 1950, when the quota system employing a rate of $0.21 per barrel on imports above 5 percent of the prior year's refinery runs was reintroduced. In late October 1952 another trade agreement was reached with Venezuela, which established a two-tier tax rate: for crude with an API gravity below 25°, it was $0.0525; for crude with a rating above 25° (so called "high test" crude) the rate remained at $0.105.[40] It should be noted that following such trade agreements the revised tax rates were applicable to virtually all oil exporting nations under "most favored nation" clauses.

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[37] See Bernard Gelb and Salvatore Lazzari, "Oil Import Taxes: Revenue and Economic Effects," Report #86-572E, U.S. Congressional Research Service, Library of Congress, Washington, D.C., May 28, 1986.

[38] Public Law 154.

[39] William H. Peterson, American Enterprise Association, The Question of Governmental Oil Import Restrictions, 1959, pp. 14-17.

The two-tiered tax on crude oil of $0.105 above 25°, and $0.0525 below 25°, remained unchanged until the Kennedy Round of trade agreements and the resultant Trade Expansion Act of 1963. As part of a general reorganization of the U.S. tariff schedules that occurred during this period, the taxes on crude imports were replaced by customs duties. The customs duties were the same as the previous tax rates.[41]

Crude oil import duties remained unchanged until President Nixon, by Presidential proclamation, eliminated the Mandatory Oil Import Program in the spring of 1973 and suspended crude oil duties.[42] A system of license fees was introduced in their place. These fees began at $0.105 per barrel, and in gradual steps, were increased to $0.21 per barrel by May 1975. It should be noted, however, that this policy was a de facto reduction in the applicable duties.[43] The license fee system initially excluded all crude for which quota allocations still existed, the legacy of the MOIP. Only crude imported above outstanding quota allocations incurred a fee. Previously every barrel imported was dutiable. Hence the net effect, at least until a gradual phase out of exempt allocations could be completed, was a reduction in the duties paid.

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[40] National Petroleum Council, Report of the National Petroleum Council Committee on Petroleum Imports, May 5, 1956, p.12.

[41] See Douglas R. Bohi and Milton Russell, Limiting Oil Imports: An Economic History and Analysis (Washington, D.C.: Resources For the Future/Johns Hopkins University Press, 1978), p.231.

[42] Message to Congress (April 18, 1973) and Proclamation 4210 (April 18, 1973) (Federal Register vol. 38, p. 9645, April 19, 1973). The MOIP began in 1959. See Douglas R. Bohi and Milton Russell, Limiting Oil Imports: An Economic History and Analysis (Washington, D.C.: Resources For the Future/Johns Hopkins University Press, 1978).

[43] "Nixon's Energy Medicine: Will It Cure the Patient?" Oil and Gas Journal, April 30, 1973, pp.81-85.

In 1975 President Ford added a supplemental oil import fee to the existing license fees. The supplemental fee began at $1.00 per barrel in February 1975 and was scheduled to increase in steps to $3.00 by April 1975.[44] As a result of a court challenge, however, a $2.00 per barrel supplemental fee was instituted in June instead. Following the passage of the Energy Policy and Conservation Act in December 1975, the supplemental fee was removed.[45]

In April 1979, President Carter temporarily suspended the license fees and customs duties on crude oil. In their place he instituted an import quota regime which restricted imports to the 1977 level. However, since that limit was never exceeded, the quotas were never effectively binding. Early in 1980, citing energy and national security reasons, Carter issued an Executive Order[46] imposing an import fee of $4.62 per barrel. A suit by members of Congress, however, resulted in a court decision voiding the Order.[47]

Since July 1980 only the two-tiered customs duty ($0.0525 per barrel below 25° and $0.105 per barrel above 25°) has been applicable. While a license is still required to import crude oil, no license fees are currently has ranged between 3 and 30 percent of the import price. By comparison, current tariff proposals of $5.00 to $10.00 per barrel would account for between 30 and 65 percent of today's price (of $15.00 to $18.00 per barrel).

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[44] Petroleum Intelligence Weekly, February 3, 1975, p.12.

[45] Bohi and Russell (1978), p.235.

[46] Presidential Proclamation 4744, April 2, 1980.

[47] INDEPENDENT GASOLINE MARKETERS COUNCIL, INC., et al., Plaintiffs, v. Charles W. DUNCAN, Jr., Secretary, Department of Energy, et al., Defendants; MARATHON OIL CORPORATION, Plaintiff, v. James Earl CARTER, President of the United States, et al., Defendants., Cit. A. Nos. 80-1116, 80-1181., United States District Court, District of Columbia., 492 F. Supp. 614, May 13, 1980; As Amended May 14, 1980.

TABLE 3

US OIL TARIFFS AND IMPORT PRICES

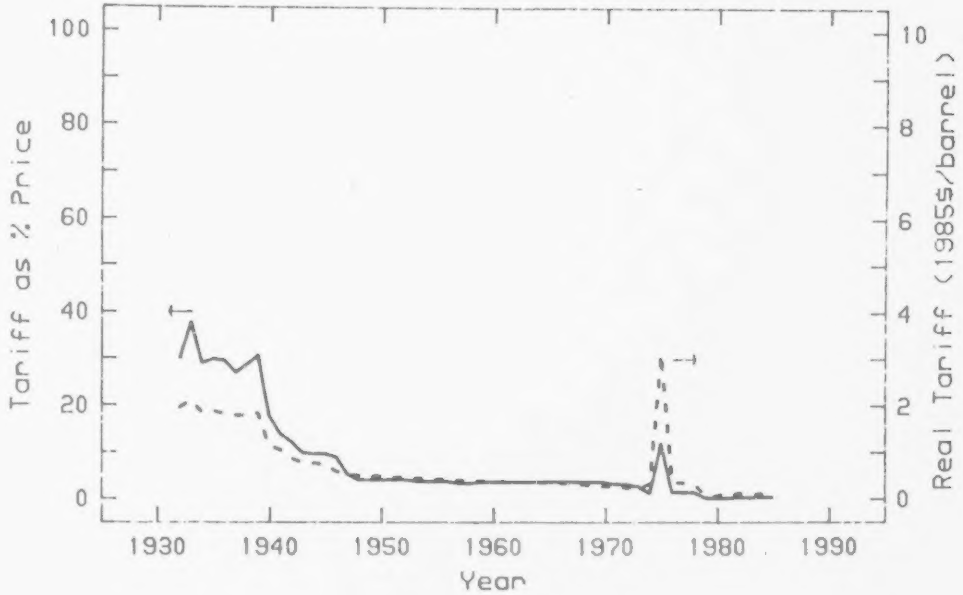
Year	Real[a] Tariff $/bbl	Real[b] Price $/bbl	Year	Real[a] Tariff $/bbl	Real[b] Price $/bbl
1932	$1.96	$ 6.505	1959	$0.39	$10.662
1933	$2.10	$ 5.550	1960	$0.38	$10.397
1934	$1.86	$ 6.407	1961	$0.38	$10.358
1935	$1.88	$ 6.295	1962	$0.37	$10.140
1936	$1.83	$ 6.174	1963	$0.36	$ 9.966
1937	$1.79	$ 6.615	1964	$0.36	$ 9.763
1938	$1.81	$ 6.302	1965	$0.35	$ 9.439
1939	$1.84	$ 6.009	1966	$0.34	$ 9.201
1940	$1.15	$ 6.457	1967	$0.33	$ 9.097
1941	$1.05	$ 7.516	1968	$0.31	$ 8.580
1942	$0.88	$ 7.174	1969	$0.29	$ 7.865
1943	$0.78	$ 7.874	1970	$0.28	$ 7.872
1944	$0.77	$ 7.971	1971	$0.26	$ 7.985
1945	$0.74	$ 7.589	1972	$0.25	$ 7.740
1946	$0.60	$ 6.672	1973	$0.25	$ 9.210
1947	$0.53	$ 9.747	1974	$0.32	$25.921
1948	$0.50	$12.322	1975	$3.13	$26.234
1949	$0.50	$12.095	1976	$0.37	$23.858
1950	$0.49	$11.729	1977	$0.35	$24.096
1951	$0.47	$11.244	1978	$0.33	$22.554
1952	$0.46	$11.096	1979	$0.08	$30.781
1953	$0.45	$11.552	1980	$0.07	$44.185
1954	$0.45	$11.830	1981	$0.12	$44.002
1955	$0.43	$11.352	1982	$0.12	$37.486
1956	$0.42	$11.071	1983	$0.11	$31.539
1957	$0.40	$11.839	1984	$0.11	$29.835
1958	$0.39	$11.316	1985	$0.11	$27.030

[a] Weighted tariffs on imported crude oil in constant 1985 dollars.

[b] Crude oil price in constant 1985 dollars: 1932-1946 is FOB price; 1947-1967 is US wellhead price; 1968-1985 is US Refiner's Acquisition Cost of imports.

FIGURE 7

US Oil Tariffs Have Been Low



APPENDIX

OIL IMPORT TARIFF CALCULATION

A SUMMARY

This appendix summarizes a model for the oil import tariff calculation. Evaluating the critique in Broadman[1], which examined at least seventeen different analyses of the oil import premium, we conclude that the approach developed in Hogan[2] is as complete a taxonomy of the premium components as is necessary to capture the main direction of oil tariff policy. We summarize the arguments of that analysis and borrow the model,. with minor extensions, as the framework for our revised estimate of the optimal oil import tariff. The model addresses the case of a long-run tariff imposed to correct oil market imperfections, including the effect of oil supply disruptions.

In this model there are five channels of market failure that add to the social cost of U.S. oil imports. Here we characterize each of these elements of the oil import premium, the gap between social cost and the market price. The premium consists of two main categories, the "economic component" and the "security component."

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[1] Broadman, H. G., "Review and Analysis of Oil Import Premium Estimates," Discussion Paper D-82C, Energy and National Security Series, Resources for the Future, Washington DC, December 1981. H.G. Broadman, "The Social Cost of Imported Oil," Energy Policy, June 1986.

[2] Hogan, W., "Import Management and Oil Emergencies," in Energy and Security, D. Deese and J. Nye (eds.), Ballinger Publishing Company, Cambridge MA, 1981.

ECONOMIC COMPONENT

Market imperfections associated with oil imports arise for both traditional economic reasons and as a result of the special problems posed by supply interruptions. The economic component of the premium, that which would exist even in the presence of a secure supply of oil, reflects the contribution of oil to inflation, the attendant shifts in the balance of trade and the judgment that a change in U.S. oil demand could have a significant effect on the world price of oil.

Inflation

Control of inflation has been a persistent problem in the United States. Even in the mid-1980's, with inflation at relatively low levels, there is a fear of higher inflation and the restrictive monetary or fiscal policies that would follow. Nordhaus[3] was the first to observe that the impact on inflation might be a significant externality associated with oil price movements.

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[3] William D. Nordhaus, "The Energy Crisis and Macroeconomic Policy," Energy Journal, Vol.1, No. 1, January 1980.

According to the conventional wisdom[4], the high cost of controlling inflation arises from the combination of market rigidities in the economy and the difficulty of predicting the course of prices, especially oil prices. With perfect anticipation of prices and complete flexibility, the economy could adjust to any level of inflation, in the long run. But in the short run, with price shocks and inflexibility, the economy adjusts slowly. The policy response is to constrain the economy in order to wring out part or all of the inflation. The cost of this adjustment can be substantial.

Our characterization of the cost of adjustment combines two rules of thumb from macroeconomics. The first is the short run Phillips curve, which relates the change in 'inertial' inflation to the change in unemployment above the 'full employment ', or 'natural', rate. Inertial inflation refers to the anticipated rate of inflation that gets built into contracts and pricing policies. Without shocks, the economy can sustain a given inertial rate, but price shocks can change the inertial rate, and induced unemployment is the policy tool for moving from one inertial rate to another. Although the estimate is uncertain, the consensus is that it takes two points of increased unemployment for a year to eliminate one point from the inertial rate of inflation[5].

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[4] The analysis of the high cost of inflation follows from the summary of the arguments and evidence presented by William D. Nordhaus and Paul A. Samuelson in Economics, Twelfth Edition, 1985, pp. 437-439. The principal dissent from this analysis comes from the 'rational expectations' school which argues that macroeconomic policy is fully anticipated and recessions results from voluntary unemployment. Nordhaus and Samuelson summarize the dissent as well as the conventional theory.

The second rule of thumb, known as Okun's law, summarizes the changes in operations that affect output and are correlated with a change in the level of unemployment. Firms take many other steps before or in conjunction with changing their number of employees, e.g. altering the use of over time. These other actions have effects on output, at the margin, that imply that each percentage point change in the unemployment rate has more than a one point impact on the level of output. Again, there is some uncertainty. In the 1960's, "Okun's law" was as high as three points of GNP lost for each point of unemployment[6]. The more recent estimates put the ratio at closer to two to one.[7]

With a short run Phillips curve implying a two to one link between unemployment and inflation, and Okun's law implying a two to one link between unemployment and output, there is a four to one link between output and reduction of inertial inflation. In a $4000 billion economy, the cost of eliminating one point from the inertial rate of inflation would be $160 billion. Nordhaus and Samuelson estimate the range as between $100 and

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[5] Nordhaus and Samuelson, 1985.

[6] Sherman J. Maisel, Macroeconomics, W.W. Norton Company, New York, 1982, p. 447.

[7] Nordhaus and Samuelson, 1985.

$270 billion![8]

The price of oil is determined by the price of oil imports. Because oil is an important commodity, a long-run trend of rising (falling) oil prices will increase (reduce) the general inflation rate. The large reduction (increase) in GNP needed to reduce (increase)[9] inflation is an externality not recognized by individual buyers of imported oil. Hence it adds a (potentially) significant externality to the use of imported oil. The size of this externality depends on how the level of imports and changes in the price of oil affect the inertial rate of inflation, and on how much of the inertial rate is accomodated (removed) by expansionary (contractionary) macroeconomic policy.

If oil prices follow a smooth upward (downward) path, then virtually all of the increase (decrease) should be anticipated and incorporated in the inertial rate of inflation. However, because of full anticipation, we could assume that there would be full policy accomodation, and therefore, no change in GNP. But if oil prices follow an erratic path, both up and down, some of the price changes will be incorporated in the inertial rate and the policy response will allow for only partial accomodation. Therefore, in the case of rising prices, only a fraction of the oil induced addition to inflation will be removed from the inertial rate through induced unemployment.

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[8] Nordhaus and Samuelson, 1985.

[9] Of course, the policy would not be to increase inflation when oil prices fall. But falling oil prices would eliminate the need to reduce inflation caused by other shocks. Assuming that in the dynamic economy there are plenty price shocks, the directional effect of policy will be to expand output and increase inflation from what it would have been otherwise, whenever blessed with falling oil prices.

The history of oil prices has been one of erratic price movements, usually associated with unexpected shocks to the system. The future will be no different, with a volatile market disguising an uncertain long run trend.[10] In this world, the ups and downs of price will not be neutral, and policy can be expected to constrict the economy to remove part of the oil induced inflation. An approximation to the sequence of short run responses is to calculate the long run impact on inertial inflation, assuming full anticipation and accomodation, and then apply a judgment as to the percentage of incremental oil inflation that will be eliminated from inertial inflation through macroeconomic policy actions.

Long-run inflation in the price of oil will create similar inflation in the price of natural gas and other oil substitutes. If the policy is to accomodate the inflation, the resulting impact on the general price level will be in proportion to the value share of oil and related products. Let:

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[10] For a review and analysis of uncertainty in the oil market, see William W. Hogan and Paul N. Leiby, "Oil Market Risk Analysis", Discussion Paper, Energy and Environmental Policy Center, Harvard University, December 1985.

r = oil inflation rate in real (nominal - inertial) terms,

s = oil import price,

q_d = domestic oil demand (millions of barrels per day, mmbd),

q_n = domestic demand for oil substitutes (mmbd),

q = oil import level (mmbd),

p = domestic price of oil and its substitutes,

t = $(p-s)$ the implicit tariff,

w = value share of oil and its substitutes,

π = inflation impact from oil.

Then the contribution to inflation from oil is

$$\pi = r(s/p)w.$$

Now,

$$w = pQ(0.365)/GNP,$$

where

$$Q = q_d + q_n .$$

Therefore,

$$\pi = rs(Q(0.365)/GNP).$$

The change in the inflation trend caused by a change in the level of oil imports is

$$\frac{\delta \pi}{\delta q} = (0.365/GNP)\left[\frac{\delta r}{\delta q} sQ + r \frac{\delta s}{\delta q} Q + rs \frac{\delta Q}{\delta q} \right]$$

Our Phillip's curve ratio (estimated above as requiring two points of unemployment for one year to eliminate one point of inflation) is uncertain and is treated as a parameter ϕ. Similarly, Okun's law (requiring two points in output lost for each point of unemployment) is denoted by the parameter β.

As Nordhaus[11] observed, full accomodation of this inflation is not likely; nor is no accomodation at all. The former would impose politically unacceptable burdens, for example, in the redistribution of wealth. The latter would cause a great reduction in real output. This is essentially a policy matter, without a clear empirical guide. If we let U represent the fraction of inflation that will be eliminated through real output reductions, then the loss in real output per barrel of incremental imports is

$$t_1 = \phi \beta U \left[(r's + rs')Q + \frac{\delta Q}{\delta q} rs \right] ,$$

where,

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[11] Nordhaus, 1980.

ϕ = Phillip's curve ratio of unemployment to inflation reduction,

β = Okun's law ratio of output loss to unemployment,

U = unaccommdated portion of inflation,

r = oil inflation rate in real terms,

r' = $\delta r/\delta q$,

s = oil import price,

s' = $\delta s/\delta q$,

Q = domestic demand for oil and for oil substitutes (mmbd),

q = oil import level.

The large costs of this inflation come from the unsought redistribution of income and from government attempts to prevent the redistribution by slowing economic growth and dampening the price increases. As long as the policy response to high inflation is to induce unemployment and a slack economy, we cannot ignore this expensive costs of oil imports.

Balance of Payments

Higher oil imports at higher prices increase the need to export goods and services or to receive investment payments in anticipation of future exports. The change in the balance of payments will lead in part to a change in the terms of trade through adjustments in exchange rates, which impose a real economic burden on each oil importing country. Whether or not a significant externality arises turns on a number of factors. For example, if oil exporters immediately recycle all their funds in the form of increased purchases of our products, or investments in our assets, then there is no externality.

Following Nordhaus (1980) we assume that an increase in oil imports will lead to a partial increase in exports as foreign oil producers recycle their revenues and a partial depreciation of the dollar to restore a balance of payments. Let:

p_d = domestic price level;

p_f = foreign currency price level;

e = exchange rate (p_f/p_d);

s = dollar price of imported oil;

X = quantity of exports

M = quantity of nonoil imports;

q = quantity of oil imports in (MMBD);

n_E = price elasticity of exports demand;

n_I = price elasticity of imports demand.

A balance of payments (with units on a daily basis) requires,

$$p_d X(p_d e) - (p_f/e) M(p_f/e) - sq = 0.$$

At a given aggregate price level[12], and with perfectly elastic supply functions, the change in the balance of trade caused by a change in the exchange rate, Δe, is

$$p_d \frac{\delta X}{\delta(p_d e)}\, p_d\, \Delta e + (p_f/e)\frac{\delta M}{\delta(p_f/e)}\,(p_f/e^2)\,\Delta e + (p_f/e^2)M\,\Delta e - \frac{\delta s}{\delta e}\,\Delta e\, q\ .$$

Suppose that B percent of any increase in oil import payments is returned by oil foreign producers through higher U.S. export purchases. Then, at the margin the change in exchange rates must satisfy Δe = (δe/δq) and the unrecycled oil payments must just balance the shift in the balance of payments for other goods, i.e.,

$$p_d \frac{\delta X}{\delta(p_d e)}\, p_d \frac{\delta e}{\delta q} + (p_f/e)\frac{\delta M}{\delta(p_f/e)}\,(p_f/e^2)\,\frac{\delta e}{\delta q} + (p_f/e^2)M\,\frac{\delta e}{\delta q}$$

$$- \frac{\delta s}{\delta e}\frac{\delta e}{\delta q}\, q - (1\text{-}B)\left[\, s + \frac{\delta s}{\delta q}\, q \,\right] = 0.$$

or

$$[n_X p_d X + (n_I+1) p_d M\ ]\ \frac{\delta \ln e}{\delta q} - \frac{\delta \ln s}{\delta \ln e}\frac{\delta \ln e}{\delta \ln q}\, s - (1 - B)\left[\, s + \frac{\delta s}{\delta q}\, q \,\right] = 0.$$

The first term is the change in imports and exports valued at the domestic dollar price. The last term is the real resource cost of incremental oil imports (excluding the percent recycled immediately and not adding to the balance-of-payments deficit). The middle term, therefore, is the balance-of-payments externality, which consists of the elasticity of real dollar oil prices as a function of the exchange rate and the elasticity of the exchange rate as a function of import levels.[13]

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[12] Assuming a fixed dollar price level in the United States, then changes in the price of foreign goods must be accompanied by changes in other domestic real prices in order to adjust relative prices and maintain the same price level.

From this last equation we obtain

$$\frac{\delta \ln e}{\delta \ln q} = \frac{(1-B)\left[s + \frac{\delta s}{\delta q} q \right] q}{n_E p_d X + (n_I + 1) p_d M - \frac{\delta \ln s}{\delta \ln e} q s} .$$

Hence, if the elasticity of demand for exports or imports is high, or B is close to 1, then the elasticity of exchange rate with respect to import quantity is low. But if B, n_E, and n_I are small, then the reverse holds true.

The elasticity of the price of oil with respect to the exchange rate is uncertain. If oil producers are willing to fix the price of oil in dollars or to make purchases only in the United States, possibly later, then this term should be near 0. If oil producers' dollars are converted to other currencies, and producers wish to maintain the purchasing power of their oil, then this elasticity is -1.

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[13] We have ignored the second-order effect of partial recycling.

In summary, the balance-of-payments import externality per barrel is

$$t_2 = s n_{se} n_{eq},$$

where,

$$n_{se} = \frac{\delta \ln s}{\delta \ln e} = \text{elasticity of oil import price to the exchange rate},$$

$$n_{eq} = \frac{\delta \ln e}{\delta \ln q} = \text{elasticity of exchange rate to oil import level.}$$

According to these definitions, we assume that (1-B) of the marginal oil revenues end up in the Eurodollar market where they cause a marginal devaluation of the dollar. The decrease in the exchange rate of other currencies for the dollar affects the balance of trade in other goods and services, and presents a problem to oil producers because the oil they sell is priced in dollars. The elasticity n_{se} summarizes a subjective judgment about producer response in terms of the effect on the price of oil.

Price Reduction

As we've argued in the text, for a country like the U.S. that purchases a significant volume of oil on the world market, the price of those purchases will depend in part on the volumes taken. Thus, the U.S. can affect the world oil price by changing the volume of its oil purchases. Since the resulting price difference would be paid on all oil imported into the U.S., the true cost of the incremental barrel to the nation as a whole is higher than the market price.

The direct cost of oil imports purchased by the U.S. is simply the import price times the import volume, or

$$sq \ .$$

Given the sizable share enjoyed by the U.S. in the world oil market, an increase in the volume of import purchases, over the long run, will change this direct cost by the amount

$$s + s'q \ .$$

The first term is just the price, s, which is the private cost. The incremental buyer of imported oil will pay this cost directly and thus internalize one component of the increased oil import bill. But the incremental buyer does not see how its purchase increases the cost for everyone else. The second term reflects this market imperfection and enters the calculation of the economic component of the premium as

$$t_3 = s'q .$$

SECURITY COMPONENT

When an interruption comes, the damage to our economy will depend in part on the level of oil imports. Even if changing the preinterruption level of imports has no effect on the size of the shortage during the interruption, the burden of suddenly higher oil prices and the attendant shocks on our economy will be reduced if imports are lower. Here we separate the security component of the premium into two elements. The first captures the economy's vulnerability to damage for a given oil price shock. The second captures the link between imports and the size of the price shock. For both of these contributions to the security component of the premium, the use of a Strategic Petroleum Reserve can reduce the effective size of the supply interruption and lower the optimal tariff.

Vulnerability

The long-run level of imports defines a reference point for short-run supply and demand curves in an interrupted market. Following the analysis in Hogan[14], we incorporate a model of short-run macroeconomic shock that employs a GDP elasticity with respect to sudden increases in the price of oil.

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[14] Hogan, W. "Oil Stockpiling: Help Thy Neighbor," Energy Journal, Volume 4, Number 3, July 1983.

Let,

q_t = quantity of oil imports that would be demanded with reduced GDP and no price change,

q_s = quantity of oil imports during interruption.

We assume that the real GDP during an interruption is

$$GDP = GDP_o((\Delta p+p)/p)^{-u},$$

where,

GDP_o = the normal GDP at price p,

Δp = shock induced change in domestic oil price,

u = elasticity of GDP with respect to oil price,

and the unemployment caused by higher oil prices is spread uniformly across the economy. We assume that this shock-induced unemployment will reduce the demand for oil in the same percentage as the reduced GDP, and this will be a principal (expensive) means of adjusting to the oil shortage.

Therefore,

$$q_t = q - q_d u \Delta p/p \ .$$

We assume the interruption lasts for one year. The short-run supply function during an interruption is determined by the size of the interruption, s ,and a short-run response relative to the import price, s. The short run supply of imports is very inelastic; a large change in price produces a small increment in curtailed supply. We further assume that the tariff implied by the pre-interruption price difference, $p - s$, is maintained during the interruption; hence, the short-run supply curve with slope b is

$$q_s = q - s + b\Delta p \ ,$$

where,

s = ex ante size of the disruption, and

b = slope of the linear short-run import supply curve,

The short-run import demand curve for quantity q_r at price w, relative to pre-interruption price $p(q)$ and quantity q, is assumed to be linear with slope c; that is

$$q_r = q_t - c\Delta p.$$

where,

c = slope (minus) of the short-run oil demand curve.

These short run supply and demand equations yield the shock to oil prices, up to linear approximation, as

$$\Delta p = s/[b+c+q_d u/p] .$$

With these definitions, the market clearing quantity during an interruption is q_u. Hence, the social cost of interruption is equal to

$$(q_t - q_u)[.5\Delta p + (p - s)] + q_u\Delta p + uGDP(\Delta p/p) .$$

Taking the derivative with respect to the oil import level yields the change in the social costs as a function of the import level:

$$[(q_t - q_u)(p'-s') - uGDP(\Delta p)p'/(p^2) + .5(\Delta p(\delta(q_t - q_u)/\delta q)] +$$
$$[(.5(q_t - q_u) + uGDP/p)\delta(\Delta p)/\delta q]$$

The terms in the first set of brackets capture the social cost given a price shock Δp. These costs reflect the vulnerability to economic disruption caused by a given level of imports. The terms in the second set of brackets capture the impact of a possible change in the size of the interruption and the resulting price shock.

Focusing on the first, the size of the externality depends in part upon the probability of a supply interruption of given size. Hence, the first element of the security component is

$$t_4 = \sum v^j[(q_t{}^j - q_n{}^j)(p'-s') - uGDP\Delta p^j p'/(p^2) + .5(\Delta p^j(\delta(q_t{}^j - q_n{}^j)/\delta q)] .$$

where,

v^j = probability of disruption state j.

Price Shock

Reducing the level of oil demand during normal times is likely to leave excess capacity in the total oil market, capacity that could be brought to market during an oil interruption and lessen the effective size of the supply loss. The extent to which any one country can count on this gain is problematic. Adjustments in capacity over time, sharing of benefits under the International Energy Program (IEP) formulas, or the possibility of losing capacity as well as production all mitigate against the efficacy of reducing oil imports as a means of lowering the size (or likelihood) of an oil supply interruption.

Hence there are several judgmental parameters that must be included in the analysis to capture the possibility of reducing the size of an interruption and, therefore, reducing the size of the price shock. With the adjustments described above for dealing with macroeconomic costs of a disruption, this second element of the security component is

$$t_5 = \sum v^j [\{ .5(q_t^j - q_s^j) + mGDP/p \} \delta(\Delta p^j)/\delta q] .$$

In order to calculate this element of the premium, we need to provide

δs/δq = the change in interruption size induced by a change in imports.

In Hogan [1981], the likely range for this value is established as .13 to .48. With proportional IEA sharing of shortages according to demand, and a complete elimination of a barrel of shortage for each barrel of reduced demand, we would have for the United States $\delta s/\delta q = 0.33$.[15]

Finally, in calculating several of the derivatives we will need the fact that

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[15] The United States consumed an average of 15.9 mmbd out of a world consumption of 47.2 mmbd between 1980 and 1983. Hence, with proportional sharing of disruptions, each barrel reduction in the short run demand for imports would have a 33% impact on the size of the effective disruption.

$$\delta q_d/\delta q = n_d q_d/(n_d q_d - n_s(q_d - q)) ,$$

where,

n_s = long-run elasticity of domestic supply.

Hence, the change in the price shock induced by a change in the level of imports is

$$\frac{\delta \Delta p}{\delta q} = \frac{s}{[b+c+q_d n/p]^2} \left[\frac{\delta q_d}{\delta q} (n/p) - q_d \, (n/p^2) \frac{\delta p}{\delta q} \right] + \frac{\delta s}{\delta q} \left[\frac{1}{[b+c+q_d n/p]} \right] .$$

STRATEGIC PETROLEUM RESERVE

Oil supply disruptions create substantial costs for the economy. The principal protection from these losses, short of preventing the disruption *per se*, would be to provide substitute supplies of oil. This fact suggests the need for a substantial supply of oil that can be injected in the market in large volumes on short notice, i.e., for a strategic petroleum reserve. Every analysis of energy security problems has pointed to the need for a substantial oil reserve.[16] Its prompt use would be the most effective means for mitigating the damages of a supply interruption.

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[16] For example, Teisberg, T.J., "A Dynamic Programming Model of the U.S. Strategic Petroleum Reserve," *Bell Journal of Economics*, Vol. 12, No. 2, Autumn 1981, presented an analysis of the link between a strategic oil supply and a tariff. Although partial substitutes, the optimal result

Whatever the size of the such a reserve, however, the volume of imports will affect the economic cost of a disruption. The greater the volume of oil imports at the start of the interruption, the greater the cost of the interruption. It follows that a tariff, which would reduce the volume of imports, and a strategic oil reserve, which would substitute for the lost supply, are complementary. The larger the reserve, the smaller the optimal tariff, but the need for a tariff remains. Our purpose is to capture the effects of a significant reserve on the size of the optimal tariff.

For a given size of the U.S. Strategic Petroleum Reserve, the size of the optimal tariff depends on the use of the SPR during an interruption. The studies of the best use of the SPR suggest both the complexity of the optimal drawdown policy in particular disruption scenarios and a reasonable general rule of thumb for purposes of the present analysis.[17]

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called for both a large reserve and a significant tariff. See also Alm, A. and E. Krapels, "Building Buffer Stocks in a Bear Market: Policy Choices for Emergency Reserves," *Discussion Paper Series*, E-82-01, Energy and Environmental Policy Center, Kennedy School of Government, Harvard University, March 1982. Chao, H.P. and S. Peck, "Coordination of OECD Oil Import Policies: A Gaming Approach," Electric Power Research Institute, Palo Alto CA, September 1980. National Petroleum Council, *Emergency Preparedness for Interruption of Petroleum Imports into the United States*, Washington DC, April 1981.

[17] See Teisberg (1981) and Hogan (1983).

If there is a reasonable possibility that a disruption will last for more than one year, then part of the SPR should be used immediately and part should be held for contingencies. Furthermore, given the value of the SPR for later emergencies, part of the disruption should be met from the SPR and part should be met with demand reductions. Our rule of thumb is to meet the disruption up to half the total interruption or half the size of the SPR. The drawdown from the SPR reduces the effective size of the disruption, s, and the resulting price increase and economic loss. Therefore, we set

$$s = \mathrm{MAX}(0.5s_{\mathrm{ex\ ante}}, s_{\mathrm{ex\ ante}} - 0.5(\delta s/\delta q)(\mathrm{SPR}/365)),$$

where $s_{\mathrm{ex\ ante}}$ is the interruption size expected without the use of the SPR. Since the use of the SPR will benefit everyone in the world market, the drawdown affects the interruption only in proportion to the assumed derivative of the interruption size for each barrel change in the size of import demand.

COMBINED PREMIUM

As we argued in the text, the individual components of the premium are not additive. Moreover, we have argued that, taken together, they are equivalent to the optimal tariff only at the optimal level of the premium; that is, for the premium associated with the level of oil imports that internalizes all externalities. As shown in Hogan (1981), the optimal premium can be found by maximizing an appropriate objective function over the total level of oil imports. This objective function combines the annualized benefits of oil use, cost of inflation and balance of payments adjustments, payment for oil imports, and the expected loss during oil interruptions. Using linear approximations for several derivatives, the objective function is:

$$OBJ = \int_0^q [p(x)\delta x] - (t_1 + t_2)q - sq$$

$$- \sum v^j [(q_t{}^j - q_u{}^j)(.5\Delta p^j + (p-s)) + q_u{}^j \Delta p^j + mGDP\Delta p^j/p] .$$

The solution to the optimization of OBJ over q yields

$$W(\ p - s\ ) = t_1 + t_2 + t_3 + t_4 + t_5 ,$$

where W is a scaling factor that adjusts for losses in tariff payments during an interruption:

$$W = 1 - \sum v^j [\delta(q_t{}^j - q_u{}^j)/\delta q] .$$

Therefore, we refer to the five elements of the economic and security components of the premium, p-s, as

$$T_k = t_k/W .$$

$k = 1, 2, \ldots, 5.$

These equations can be solved numerically to identify the five elements of the optimal oil import tariff. The basic model includes constant elasticity long-run supply and demand curves, with linear short-run supply and demand curves with a traditional analysis of consumer and producer surplus to calculate welfare changes. Disequilibrium during an interruption reduces GDP and the demand for oil. And the long-run inflation and balance of payment contributions are incorporated simultaneously in the solution of the model. Hence, we impose consistency of assumption across the premium components and recognize the interaction in the quantitative estimates of the total optimal premium and optimal tariff.

AGGREGATE COST SAVING

An estimate of the combined premium allows a further estimate of the aggregate cost of oil market imperfections. Since the premium measures the difference between price and social cost, the import supply curve plus the premium captures the full social cost of oil imports. The demand curve measures the corresponding social value of the same imports. At the market level of imports — with no tariff — the social cost is above the social value. At the optimal level of imports — by definition at the optimal tariff — marginal social cost just equals marginal social value. Hence the excess of cost over value, as imports increase from the optimal to the market level, is cost of the oil import externalities.

(See Figure 4 in the text.)

Let q^* be the optimal level of imports and q_0 be the market level. Let T^* be the premium at the market level. Then the aggregate net cost of oil import market imperfections, or the saving engendered by imposing the optimal tariff, is given by

$$C = T^*(q_0 - q^*)/2 \ .$$

Calculation of C requires only that we estimate the premium and import volume at the market level, where $p = s$, and at the optimum import level, where $T^* = p - s$.

OPTIMAL TARIFF ESTIMATES

With this technical summary complete, we can turn to the quantification and sensitivity analysis. An estimate of the optimal oil import tariff depends upon many assumptions. In Broadman[18] there is a discussion of the uncertainties that result in a very wide range of estimates from $2 to $124 per barrel. To be sure, this range encompasses all arguable values for input assumptions. However, we can narrow it considerably by choosing more plausible parameter values. For present purposes we will not discuss all possible combinations of parameters. Rather, we shall establish a base case of most likely values, and then examine excursions that seem of most interest in the light of the nature of the oil market in 1986.

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[18] Broadman (1986).

Base Case Parameters

The basic model provides simultaneous estimates of the optimal tariff, prices, and oil import quantity. Implementation of this model requires assumptions about a range of inputs. One of the principal difficulties in preparing optimal tariff estimates is the uncertainty surrounding the parameters. Many of the essential elements, such as demand elasticities and behavioral responses of suppliers, are not known with certainty. In order to proceed, therefore, it is important to prepare sensitivity analyses to examine the likely range of alternative tariff estimates.

The first sensitivity analysis focuses on a base case and the implications of changes in prices. The second sensitivity test examines the importance of the security component by calculating the optimal tariff under the assumption of a secure world oil market with no threat of interruption. Finally, the uncertainties surrounding the full range of inputs enter in a risk analysis that calculates the probability distribution for the optimal tariff.

The base case includes the nominal assumptions for each of the inputs specified in the development of the model. The most likely values draw on the literature and the authors' judgment. These most likely values provide the first estimate of the optimal tariff and the cost of a free market policy. The base case assumptions include:

U = 30%, unaccommdated portion of inflation;

r = 3%/yr, oil inflation rate in real terms. The rate of real price increase between 1970 and 1985 averaged 6.9%/yr. At 3%/yr, the real price would double in 24 years;

r' = 0.1%/mmbd, derivative of oil inflation rate with respect to changes in the level of imports. According to the usual theory of depletable resources, r is the same as the nominal interest rate, independent of the level of oil production or imports. Even under the opposite extreme case of production targets, r is independent of oil imports. For our sensitivity analysis, we assume that imports have a small effect on the rate of oil price change, implying a small, positive value for r'. For our base case assumptions, we take r = 3% and r' = 0.1%;

ϕ = 2, Phillips curve derivative ratio of excess unemployment to inflation, as described in Nordhaus and Samuelson, 1985;

β = 2, Okun's law, ratio of lost output to unemployment, as described in Nordhaus and Samuelson, 1985;

p = $27/bbl, base domestic oil price,

s = $27/bbl , base oil import price;

s' = $.50/bbl/mmbd, derivative of normal oil import supply curve;

q_d = 16 mmbd , base domestic oil demand, approximately thr level in 1985;

q_n = 5.4 mmbd, domestic demand for oil substitutes, the level in 1985;

q_s = 10 mmbd, base domestic oil production, the level in 1985;

n_d = -0.5, long-run elasticity of US demand for oil. Estimates drawn from the Department of Energy and an independent analysis of the data imply a long run elasticity of -0.9 with respect to the crude oil price[19]. The lower value used here is intended to capture an approximation of the decade long horizon reasonable for design of tariff policy;

n_s = 0.5, long-run domestic oil supply elasticity. The Department of Energy's oil market model uses an elasticity of 0.9.[20] Again, the smaller value used here reflects the average over a decade;

n_{se} = -1., elasticity of oil import price to the exchange rate;

B = 25% , fraction of marginal oil revenues recycled to US;

n_x = -2., elasticity of demand for exports;

n_m = -1.5, elasticity of demand for imports other than oil. This figure and the elasticity for exports are drawn from the surveys reported in Corden, Caves and Evans[21];

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[19] Hogan and Leiby, 1985.

[20] Hogan and Leiby, 1985.

[21] W.M. Corden, Trade Policy and Economic Welfare, Clarendon Press, Oxford 1974, pp. 183-184; R. E. Caves, World Trade and Payments, Little, Brown and Company, Boston 1981, p. 283; M. K. Evans, Macroeconomic Activity, Harper and Row, New York, 1969, pp. 227-228.

X = $227. billion, value of exports, the value in 1985;

M = $285. billion, value of imports other than oil, the value in 1985;

GDP_o = $4525. billion, the normal GDP, the value in 1985;

u = 0.05, elasticity (minus) of GDP with respect to oil price shock. Several studies have used similar estimates drawn from the analysis of past supply interruptions and simulation with more detailed macroeconomic models[22];

$\delta s/\delta q$ = 0.36, the change in interruption size induced by a change in long-run import demand, based on the evaluation of the U.S. share of the world market, see Hogan[23];

A_d = 0.1 adjustment rate for domestic oil demand[24];

A_s = 0.1 adjustment rate for domestic oil supply[25];

$n_{i:short}$ = 0.1 short-run imported oil supply elasticity;

SPR_Size = 500 million barrels.

In addition to these parameters, the base case specifies the probability distribution for oil supply interruptions over the possible interruption sizes, s. For purposes of the sensitivity analysis, we consider four different views of the world about the probability of one-year long interruptions of 1 mmbd, 3 mmbd, and 6 mmbd, for the United States. For each of these world views we characterize the decade probabilities of one or more such interruptions:

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[22] See Murphy et al 1986; Rowen and Weyant 1986.

[23] Hogan 1981.

[24] Hogan and Leiby, 1985.

[25] Hogan and Leiby, 1985.

Table A.1

Decade Probabilities

One Year Interruptions[26]

World View	1 mmbd	3 mmbd	6 mmbd
W0	.0	.0	.0
W1	.50	.10	.05
W2	.75	.30	.05
W3	.95	.50	.20

The last three world views correspond to increasingly pessimistic views of the likelihood of oil supply interruptions. The zero (W0) case provides a benchmark from which to separate the disruption effects from the other constituents of the oil import premium. The nominal assumptions adopt world view two (W2).

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[26] Values for a *ex ante*, i.e., before use of the Strategic Petroleum Reserve.

High Price Estimation

The combination of these base case assumptions produce estimates of the individual components of the premium and the optimal tariff as wells as the cost of the free market policy. Using a price of $27 per barrel to represent the high price case, the estimates are:[27]

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[27] Calculation of the optimal tariff includes a number of intermediate calculations. For the high price case, for instance, these include:

Hi Price Case $27

OPTIMAL TARIFF CALCULATION INTERMEDIATE CALCULATIONS

q:base	6.00 base oil import level
b	0.022 derivative of the short run import supply curve
c	0.048 derivative (minus) of short run import demand curve
$\delta q_d/\delta p$	-0.19 derivative of long run domestic demand for oil
$\delta q_s/\delta p$	0.185 derivative of long run domestic supply of oil
n_d:short	-0.05 short-run elasticity of US demand for oil
n_s:short	0.05 short-run domestic oil supply elasticity
n_{eq}	-0.03 elasticity of exchange rate to the oil import price le
$\delta Q/\delta q$	0.53 derivative of Q with respect to q
p'	-2.66 derivative of domestic inverse demand curve
W	0.97 scale factor for tariff loss during interruption

OPTIMAL TARIFF CALCULATION INTERRUPTION WORK CALCULATIONS

Decade_p	Prob_j	GDP_j	s_j	Δp_j	δΔp/δq_j
0.75	0.129	4478	0.75	8.42	3.82
0.30	0.035	4388	2.75	30.79	3.29
0.05	0.005	4300	5.75	64.33	2.49

OPTIMAL TARIFF CALCULATION High Price Case
($/Barrel)

s		25.08	IMPORT PRICE
T_1	1.45		
T_2	0.69		
T_3	1.11		
		3.25	ECONOMIC PREMIUM
T_4	2.82		
T_5	4.96		
		7.78	SECURITY PREMIUM
T		11.03	TOTAL PREMIUM
P		36.10	DOMESTIC PRICE
q:d	13.84		DEMAND
q:s	11.69		SUPPLY
q	2.15		IMPORTS

Optimum	Economic Tariff	3.25	
	Security Tariff	7.78	
	Combined Tariff		11.03
Base	Economic Premium	7.31	
	Security Premium	10.40	
	Combined Premium		17.71
Cost of Free Market Policy ($million/day)			34.07

Low Price Estimation

The first sensitivity test takes the base case parameters but changes the assumption for oil prices. We continue to assume that the benchmark level for energy demand is 16 mmbd at $27 per barrel, with a 10 mmbd domestic supply, implying a 6 mmbd demand for imports. However, now we assume that imports can be supplied for $15 per barrel. Starting at this new price, we solve for the equilibrium levels where the domestic demand, domestic supply and import supply balance. The solution produces a higher premium, a higher tariff and a higher cost of a free market policy:

OPTIMAL TARIFF CALCULATION Low Price Case
($/Barrel)

s	11.76		IMPORT PRICE
T_1	0.98		
T_2	0.68		
T_3	3.82		
		5.48	ECONOMIC PREMIUM
T_4	1.77		
T_5	5.30		
		7.07	SECURITY PREMIUM
T	12.55		TOTAL PREMIUM
p	24.32		DOMESTIC PRICE
q:d	16.86		DEMAND
q:s	9.33		SUPPLY
q	7.53		IMPORTS

Optimum	Economic Tariff	5.48	
	Security Tariff	7.07	
	Combined Tariff		12.55
Base	Economic Premium	11.24	
	Security Premium	9.16	
	Combined Premium		20.40
Cost of Free Market Policy ($million/day)			70.60

The increased demand, associated with the lower price, raises the expected level of imports and increases the economic component of the premium more than it decreases the security component, leading to a higher cost for a free market policy. Hence, although some of the externalities are reduced with lower oil price, under the base case assumptions the effect of lower oil prices is to raise the size of the premium and the optimal tariff.

Secure Imports Estimation

The estimate of the optimal tariff includes both economic and security components of the premium. Naturally a reduction in the risk of oil supply interruptions should have a beneficial effect on oil consumers and, thereby, lower the optimal tariff. However, as we argued above, changes in one element of the premium ca change the size of the other elements. There is a feedback effect. The interaction may cause the various elements to shift so that the aggregate change in the optimal tariff is less than the change in the individual components of the premium.

The optimal tariff under the condition of no oil supply interruptions is larger than the economic component of the tariff in the base case. With the high price case and the extreme assumption of no threat of supply interruptions, the optimal tariff, the premium and the cost of a free market policy, would change to include:

OPTIMAL TARIFF CALCULATION Secure Imports Case
($/Barrel)

s	26.07	IMPORT PRICE
T_1	1.52	
T_2	1.49	
T_3	2.07	
		5.08 ECONOMIC PREMIUM
T_4	0.00	

```
T5             0.00
                    0.00 SECURITY PREMIUM
T              5.08 TOTAL PREMIUM

P             31.14 DOMESTIC PRICE

q:d           14.90 DEMAND
q:s           10.77 SUPPLY

q              4.13 IMPORTS

        Optimum  Economic Tariff       5.08
                 Security Tariff       0.00
                      Combined Tariff          5.08
         Base    Economic Premium      7.12
                 Security Premium      0.00
                      Combined Premium         7.12

Cost of Free Market Policy                     6.65
                 ($million/day)
```

It is clear that the simultaneity and complementarity between the economic and security components of the premium imply a significant optimal tariff even if security problems are eliminated.

Risk Analysis Estimation

These few sensitivity tests illustrate the principal responses of the optimal tariff calculation to changes in the input assumptions. The high and low oil price cases, or the secure world oil market scenario, produce changes in the estimate of the optimal tariff. However, the optimal tariff still continues to be a large fraction of the price of oil and large relative to any tariff that might be considered politically acceptable. Unfortunately, the few sensitivity tests do not exhaust the major uncertainties that could affect the size of the optimal tariff. Higher or lower assumptions about inflation could have a significant impact on both the quantity of oil imported and the estimate of the optimal tariff. Similarly, changes in elasticity estimates, alternative views about the probability of interruptions, or uncertainties in any of the other parameters could alter the optimal import tariff estimate.

It is not possible to examine all potential combinations of the long list of important input parameters. The number of scenarios would quickly exhaust our capacity to absorb the data. As an alternative, therefore, a "risk analysis" of the optimal tariff estimate captures a range of possible tariff policies that should be considered given our uncertainty in the input parameters.

Under risk analysis, the analyst specifies the uncertainties in terms of probabilities for different values of the input parameters. For instance, the most likely estimate of the aggregate demand elasticity is

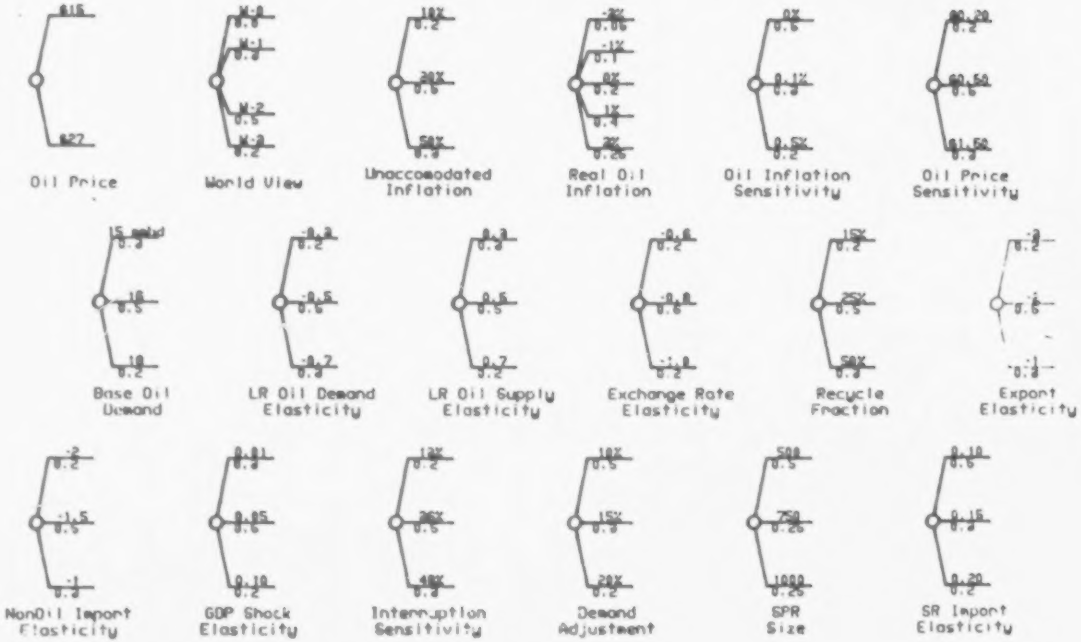
0.5. This demand elasticity reflects the estimates from a variety of studies, some of which produce higher values and some of which produce lower values. For purposes of the sensitivity analysis, it is easy to argue that there is a significant chance that the elasticity could be as high as 0.7 or low as 0.3. A wider range is possible but the principal range of uncertainty should be captured by these values. The probability that the elasticity will be as high as .7 or as low as .3 is not as great as the probability that the most likely case is correct. Using our judgment, we assign probabilities of 30% to the elasticity of 0.7, 50% to the elasticity of 0.5 and 20% to the elasticity of 0.3.

A similar probabilistic analysis across the range of possible values for the other key inputs establishes a probability distribution for all of the uncertain parameters. An event tree summarizes these probability judgments as shown in figure A.1. This event tree assigns one node to each uncertainty and the branches describe the possible alternative values for the respective input parameters. The probability represent the judgments on the uncertainty that should be applied to the sensitivity analysis.

Given the event tree, it is a straightforward matter to apply the optimal tariff model to calculate the probability distribution of the tariff components and the cost of a free market policy. This simulation also provides the probability distribution for the optimal tariff. Application of the event tree to the optimal tariff model produces the probability distributions shown in figures A.2 through A.4. Each probability distrib-

FIGURE A.1

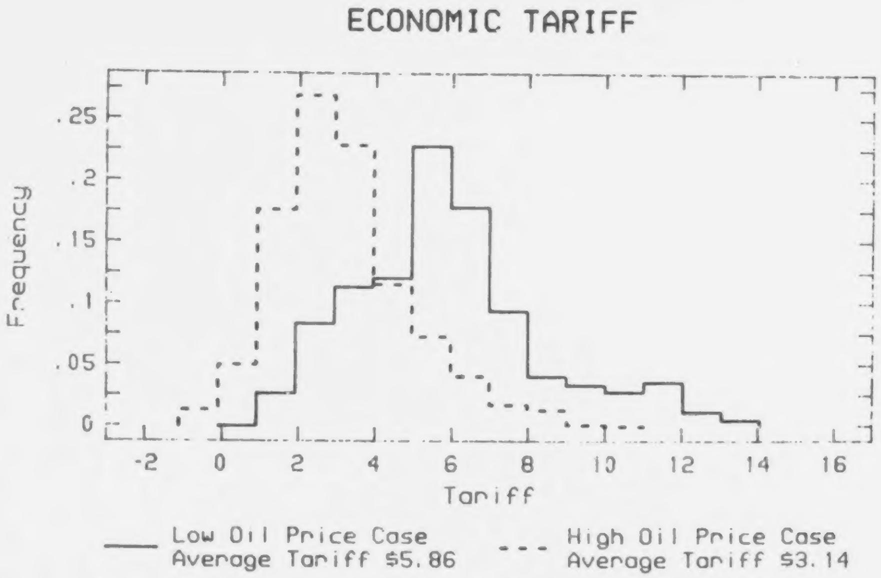
Oil Premium Inputs are Uncertain


$15
$22
Oil Price
W-0
0.0
W-1
0.3
W-2
0.5
W-3
0.2
World View
10%
0.2
20%
0.5
50%
0.3
Unaccomodated Inflation
-2%
0.05
-1%
0.1
0%
0.2
1%
0.4
2%
0.25
Real Oil Inflation
0%
0.5
0.1%
0.3
0.5%
0.2
Oil Inflation Sensitivity
$0.20
0.2
$0.50
0.5
$1.50
0.3
Oil Price Sensitivity
15 mmbd
0.3
16
0.5
18
0.2
Base Oil Demand
-0.3
0.2
-0.5
0.5
-0.7
0.3
LR Oil Demand Elasticity
0.3
0.3
0.5
0.5
0.7
0.2
LR Oil Supply Elasticity
-0.6
0.2
-0.8
0.6
-1.0
0.2
Exchange Rate Elasticity
15%
0.2
25%
0.5
50%
0.3
Recycle Fraction
-3
0.2
-2
0.5
-1
0.3
Export Elasticity
-2
0.2
-1.5
0.5
-1
0.3
NonOil Import Elasticity
0.01
0.3
0.05
0.5
0.10
0.2
GDP Shock Elasticity
12%
0.2
26%
0.5
40%
0.3
Interruption Sensitivity
10%
0.5
15%
0.3
20%
0.2
Demand Adjustment
500
0.5
750
0.25
1000
0.25
SPR Size
0.10
0.5
0.15
0.3
0.20
0.2
SR Import Elasticity

Prices in 1985 dollars per barrel.

FIGURE A.2

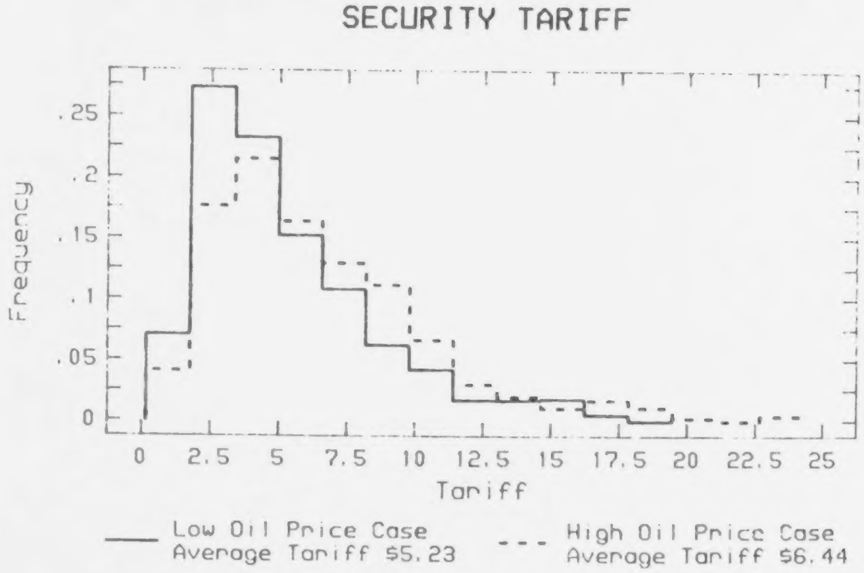
Lower Oil Prices Produce a Higher Economic Tariff



Prices in 1985 dollars per barrel.

FIGURE A.3

Lower Oil Prices Produce a Lower Security Tariff

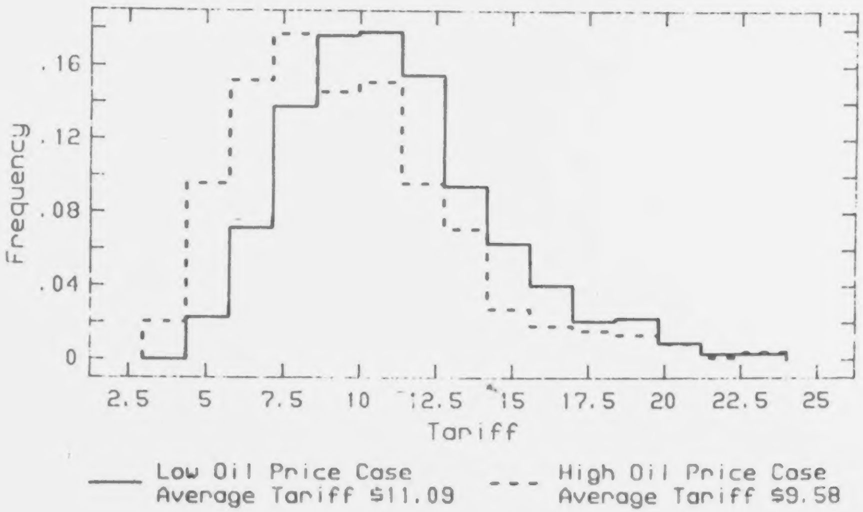


Prices in 1985 dollars per barrel.

FIGURE A.4

After Netting Out Compensating Effects Oil Prices Have Little Impact on the Optimal Tariff

COMBINED TARIFF



Prices in 1985 dollars per barrel.

ution summarizes the range of uncertainty in the optimal tariff estimates policy and the costs of a free market policy.

Focusing on the key sensitivity test between low and high oil prices, the probability distributions include:

Optimal Tariff and Cost Probability Distributions
($/Barrel)

High Price Case ($27)

	Lower 25%	Median	Upper 25%	Expected Value
Economic Tariff	1.95	2.85	3.90	3.14
Security Tariff	3.63	5.64	8.52	6.44
Total Optimal Tariff	7.00	8.96	11.26	9.58
Cost of Free Market Policy ($million/day)	12.71	22.58	36.11	29.03

Low Price Case ($15)

	Lower 25%	Median	Upper 25%	Expected Value
Economic Tariff	4.03	5.68	6.87	5.86
Security Tariff	2.80	4.20	6.65	5.23
Total Optimal Tariff	8.71	10.81	11.89	11.09
Cost of Free Market Policy ($million/day)	32.10	49.03	76.51	61.48

SUMMARY

The optimal import tariff balances all the costs and benefits of oil imports. Although any operational estimate of the tariff will depend upon an array of assumptions and judgments, it is possible to make these judgments and organize them in an internally consistent set of calculations. These estimates quantify the several possible sources of market failure which prevent private actors from recognizing the true costs of the marginal barrel of oil imports. The resulting tariff estimates are sensitive to the assessment of market conditions, but this sensitivity appears to be much less than commonly believed. There is a significant amount of interaction among the tariff components. A change in assumption which reduces one element tends to produce a compensating increase in others, and the whole is less sensitive than the parts.

This complementarity and the numerical results provide a guide for action. The size of the tariff is large. Our preferred set of assumptions sets the optimal tariff about $10 and $11 per barrel. Under the High Price case, there is a 75% chance that the optimal tariff is at least $7 per barrel. And under the Low Price case, this estimate to an optimal tariff of at least $8.70 per barrel. When compared with the usual political discussions, where the most adventuresome conversation involves tariffs that are half this range, the direction of policy is clear: higher tariffs can be justified. Based on the estimates of market failure, a figure in the range of $7 per barrel and $9 per barrel is as low as can be supported by the analysis and the judgments on the range of uncertainty in the parameters.

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OIL TARIFF POLICY: AN OVERVIEW

William W. Hogan*

Harry G. Broadman**

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A tariff on U.S. oil imports is justified by the special characteristics of oil and oil markets. Unlike other commodities, oil production and prices have been manipulated successfully by foreign producers for protracted periods. Moreover, unlike most other products, the price and availability of oil significantly affect macroeconomic variables such as our trade balance, the rate of inflation, and aggregate level of economic activity. And, more than most commodities, oil is crucial to our national security. For these reasons, the full cost of U.S. oil imports is not reflected in the price we pay in the world market. The gap between the true cost of oil to the nation and the market price justifies imposition of an offsetting tariff.

Beleaguered domestic oil producers have called for a tariff on imported petroleum supplies. Such a protectionist measure would, in effect, provide them with price guarantees in the face of soft market conditions.

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Behind the producers' argument is the belief that world oil prices will remain low for a sustained period of time and that, as a result, there will be an appreciable decline in U.S. exploration, development, and production activity, posing a major threat to the future viability of the U.S. oil industry.

The most recent data available for the United States confirm that these forces are very much at work. Total demand for petroleum increased by about 2.6 percent in 1986. Domestic production of crude fell off by 300,000 barrels a day. Imports of crude and refined products rose by about 19 percent, averaging over 6.0 million barrels a day (mmbd), the highest level since 1980. Total imports thus reached about 37 percent of U.S. demand. Persistent soft market conditions will exacerbate these trends. Substantial reductions in drilling activity -- the domestic rig count has dropped from approximately 4500 in October 1981 to about 800 in October 1986 -- should result in continuing declines in U.S. crude production in the years ahead. [1]

Notwithstanding the development of the Strategic Petroleum Reserve (SPR), U.S. government response to the problem of energy security since the late 1970s has been primarily one of laissez faire. The roots of this free market policy lie partly in the costly experience with price controls in the early and mid 1970s, and with good reason. The result, placing all of our energy security eggs in one basket -- the SPR -- is too narrow an insurance policy for the nation. The re-emergence of volatility in oil prices has rekindled this concern and renewed the search for policy instruments to supplement the SPR. An import tariff has been the most frequently mentioned tool. Indeed, such arguments were advanced when oil prices were high. [2]

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[1] Monthly Energy Review, January, 1987.

The idea of applying a tariff to U.S. oil imports is not new. However, the usual argument made by economists in support of such a policy does not derive from the notion of protecting the U.S. oil industry, but rather the objective of insuring that the United States consumes the "optimal" level of imported oil, i.e., where the nation's benefit from oil imports is maximized. The analysis emphasizes the difference between the total cost of oil imports and the market price. The difference, known as the oil import premium, sets the stage for possible government action. Transitory variations in market conditions -- gluts as well as shortages -- will alter the magnitudes and signs of individual components of the premium, but the total value of the premium need not vary appreciably.

There are two sets of market imperfections that comprise the premium. One of these is the "economic component" of the premium. The other portion of the premium is the "security component."

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[2] See, for example, Harry G. Broadman, "Review and Analysis of Oil Import Premium Estimates," Discussion Paper D-82C, Energy and National Security Series, Resources for the Future, Washington, D.C., December 1981; and William W. Hogan, "Import Management and Oil Emergencies," in Energy and Security, David Deese and Joseph S. Nye, eds., (Cambridge, MA: Ballinger, 1981); and James L. Plummer (ed.), Energy Vulnerability, (Cambridge, MA: Ballinger, 1982). Use of a U.S. oil import tariff actually dates back to the 1930s.

The Economic Component

Because the United States is a large oil purchaser in the world market, the price we pay for oil imports is not independent of how much we buy. The greater the volume of oil imports, the higher the price, and vice versa. Importantly, this means that a given increase in U.S. demand for oil imports leads to a higher price that all pre-existing U.S. oil importers must pay. Thus, not only does the party responsible for the increase in oil import demand cause it to face a price that is higher than what it otherwise would pay, but also its contribution to demand affects the price that must be paid by all other U.S. oil importers.

This "monopsony" element of the economic component of the premium can be illustrated using a simple numerical example. Suppose U.S. oil imports stand at 4 mmbd and the world price is $18.00 per barrel. Now assume that if U.S. oil import demand was to increase by 1 mmbd, the price would rise to $20.00 per barrel. The total oil import bill for the United States would increase from $72 million to $100 million per day. The total cost to the United States of each of the additional one million barrels would be $28.00 per barrel. However, the private cost of the marginal barrel would be only $20.00, the market price. Thus, in effect, the United States pays a premium of $8.00 for the last barrel imported.

In addition to the monopsony wedge element, there are two other elements that comprise the economic component of the oil import premium. The first is perhaps the most obvious. Changes in the price of a commodity like oil, so central to an industrial economy, will have a direct effect on the general price level, all other things equal. A long-run trend of rising (falling) oil prices will increase (reduce) the rate of inflation. To the extent that large reductions (increases) in GNP are needed to reduce (increase) inflation, purchases of imported oil generate "externalities"; that is to say, buyers of imported oil do not pay a price that recognizes that their purchases impose macroeconomic costs.

The other element of the economic component of the premium arises from the general terms of trade. To maintain our trade balance in the face of an increase in the total payment for imported oil, either an increase in U.S. export earnings or a decrease in U.S. import expenditures on non-petroleum products would be required. Accordingly, the dollar exchange rate would adjust, making U.S. exports more competitive on the world market and imports more expensive for U.S. consumers. Since at equilibrium total imports available to the U.S. economy would be reduced and U.S. exports would increase, domestic consumers are made unambiguously worse off. The purchaser of the incremental barrel of imported oil does not fully consider this "terms of trade" effect, which is spread across the economy.

The Security Component

At the most fundamental level, the security component of the premium reflects external costs that stem from sudden, unanticipated and large changes -- in a word, disruptions -- in the relative price of oil. There are two elements of the security component. The first might best be thought of as reflecting the extent to which the economy is exposed, or vulnerable, to an increased transfer of wealth abroad and its attendant macroeconomic and trade balance costs. This vulnerability is directly a function of the volume of imports prior to a disruption. The larger the import level at the disruption's start, the greater the externalities associated with the wealth transfer for any given price rise. Secondly, the greater the level of imports, the larger the likely price increase, which further adds to the security costs.

Because disruption costs are largely macroeconomic in nature, the benefits of shockproofing are not appropriated solely by those making the investments. That is to say, these types of investments have "public good" characteristics.

The Total Premium

The magnitudes of the economic and the security components of the premium are both influenced by the level of oil imports. Therefore, in estimating the magnitude of the total premium, the sizes of the various components should be determined simultaneously, taking into account the interactions and complementarities between them.

Previous estimates of the total premium span a wide range, from as low as \$2.00 per barrel to as high as \$124.00 per barrel.[3] However, most of the analytically supportable estimates fall between $2.00 per barrel and $15.00 per barrel. Given the wide-ranging impacts of an oil import fee, many factors could affect the estimate of the optimal tariff. While more could be done to take the best from each analysis, the alternative evaluations of the aggregate costs and benefits of an oil tariff are remarkably consistent. Broadman and Hogan examined a wide range of other assumptions and produced a distribution of optimal tariff estimates as shown in the Figure.[4] Given the complexity of the political debate, the $10 per barrel median estimate meets the "round number" test and is at the upper end of practical feasibility. Hence the focus should be on the other arguments that counter or weaken the force of the economic analysis.

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[3] See Harry G. Broadman, "The Social Cost of Imported Oil," Energy Policy, June 1986. A new estimate is presented in Frederick M. Murphy et al., "An Integrated Analysis of U.S. Oil Security Policy," The Energy Journal, July 1986, pp. 67-82. See also Henry S. Rowen and John P. Weyant, "The Oil Price Collapse and Growing American Vulnerability," Working Paper, Stanford University, September 1986.

Objections to the Tariff

A few objections to a tariff are appealing on the surface, but seem flawed underneath. For example, a tariff would reduce the U.S. competitive position abroad. True, but this is part of the solution, not the problem. To the extent that U.S. industry is buying oil at less than the cost to the nation, embedding the oil in other products and selling the embedded oil at less than its cost, the nation is subsidizing a bad business. Another such argument is that an oil tariff is a "drain America first" program. Without taking up the full complexity, the intertemporal problem can be seen as one of timing the conversion away from oil, not just imported oil. In the extreme, if imported oil is expensive or dangerous enough, there is no necessity to import. It is a matter of cost. The intertemporal problem is one of balancing those relative costs. The intertemporal argument is not an argument against a tariff *per se*.

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[4] Harry G. Broadman and William W. Hogan, "Oil Tariff Policy in an Uncertain Market," Harvard University Energy and Environmental Policy Center, Discussion Paper, 1986.

More recently, the Department of Energy has argued that a tariff would produce large transition costs in the form of macroeconomic recession due to self-inflicted inflation.[5] The DOE analysis assumes that the macroeconomic policy does not accommodate the tariff. However, the studies by the Energy Modeling Forum suggest that a careful use of macroeconomic policy can manage the adjustment and greatly reduce any transition costs. [6]

But these distractions do not exhaust the list of arguments against a tariff. Even accepting the special nature of the oil market, objections to a U.S. oil tariff may flow from conflicting policy goals, criticism that the market analysis is overly simplistic, or practical political limitations. The principal objections fall into three general categories: (i) oil market imperfections are relatively small and, therefore, there is no significant saving by trying to correct them; (ii) other trading arrangements will be compromised and, therefore, there are costs created elsewhere despite gains in the oil market; and (iii) government programs to intervene in a market often go awry and an oil tariff will be part of this pattern, i.e., such a tariff will produce more costs than benefits.

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[5] *Energy Security*, Department of Energy, March, 1987.

[6] For an analysis of the macroeconomic costs in *Energy Security* and the work of the EMF, see "Macroeconomic Impacts of Energy Shocks: A Summary of Key Results," Energy Modeling Forum, Stanford University, September 1984 (revised April 1986).

Each of these arguments has merit. The first, dealing with the measurement of market imperfections, is the subject of available studies. The bulk of the analyses point to significant imperfections and large external costs associated with the current U.S. free trade policy in oil. While there is room for debate here, the strongest case against a U.S. oil tariff lies elsewhere.

The second objection emphasizes linkages between U.S. oil trade policy and U.S. trade policy in general. Even if there are significant market imperfections associated with oil imports, opponents of a U.S. oil tariff argue that adoption of such a tariff would trigger a reaction in the trade policies of other countries. There is a danger here. If oil trade policy has a significant effect on all trade policies, then the cost of the current U.S. free market policy in oil may be the price we have to pay for free trade in other goods. A few of our oil trading partners have substantial additional trade with us. For example, a large percentage of U.S. non-oil imports come from Canada. If this trade would be adversely affected by a tariff on oil imports, then the linkage may be important.

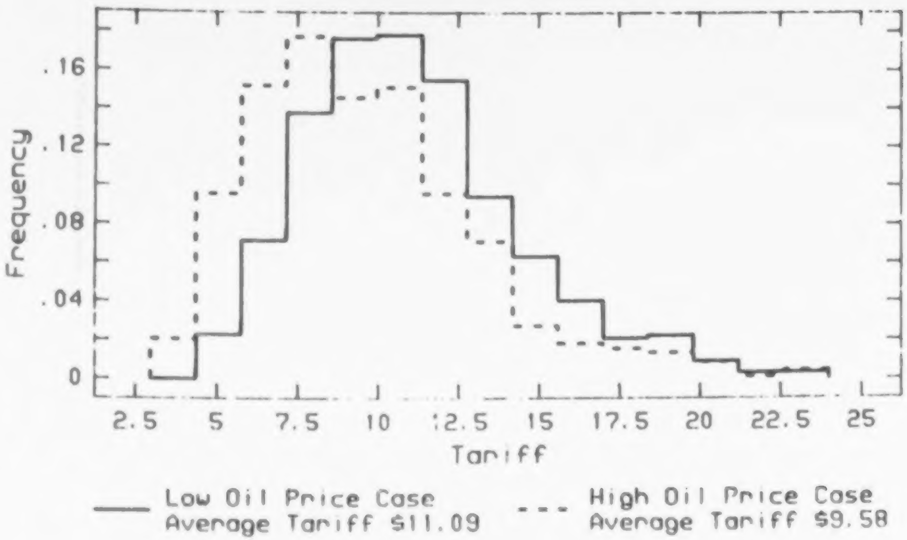
But to the extent that use of an oil U.S. tariff can be made to be seen only as a response to the initial restrictions on oil trade by foreign producers and the special instability of world oil supplies, and U.S. oil trade policy can be separated from other U.S. trade decisions, then the argument for a tariff based on measured external costs should prevail

The final, and oft repeated, criticism of an oil tariff raises the specter of policy implementation that falls far short of the lofty ideals of policy design. An oil tariff would have a significant impact on the economy. There would be transfers from domestic consumers to domestic producers of oil.

There would be appeals for exceptions. But, the more exceptions, the less the economic saving produced by a tariff. The induced adjustments in consumption and production are the source of the economic benefits of a tariff and, therefore, any policy which exempts consumers and producers from making adjustments will correspondingly reduce these savings.

The challenge is to implement a tariff without avoiding the economic adjustments that a tariff is intended to achieve. If by assumption this adjustment process is simply too hard in the real world of the politics of special interests, then by assumption the tariff is a bad policy. But the substantial oil premium points to a large tariff as in the best interests of the United States. The case against the tariff rests primarily on arguments separzte from the quantifiable economic analysis.

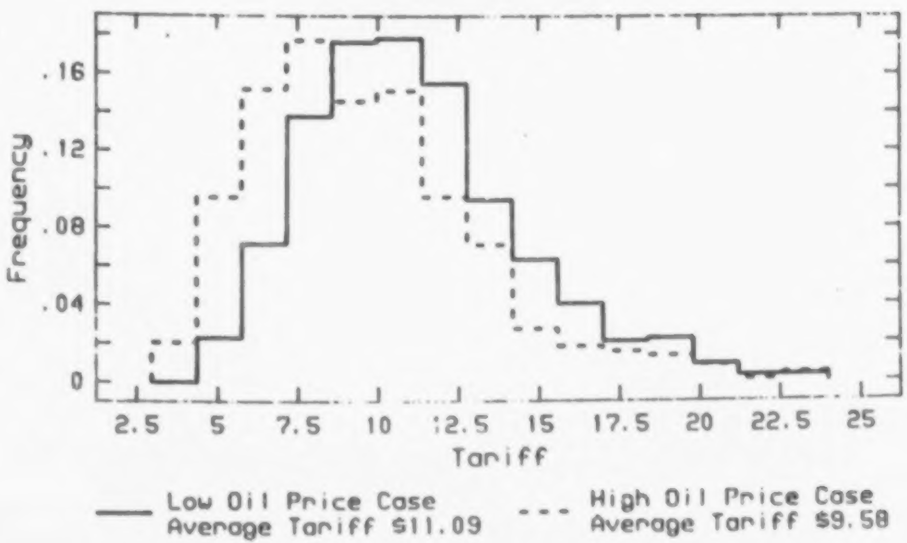
After Netting Out Compensating Effects Oil Prices Have Little Impact on the Optimal Tariff



COMBINED TARIFF

Prices in 1985 dollars per barrel.

After Netting Out Compensating Effects Oil Prices Have Little Impact on the Optimal Tariff



COMBINED TARIFF

Prices in 1985 dollars per barrel.

THE $200 BILLION SURPRISE:
ENERGY SECURITY AND THE OIL TARIFF

William Hogan

May 1987

E-87-05

The $200 Billion Surprise:[1]
Energy Security and the Oil Tariff

An oil import fee is a controversial subject at best. The National Petroleum Council suggested an import fee as a policy option, but critics might dismiss its proposal as special pleading for protection from foreign competition.[2] The Congressional search for new revenues raises some interest, but experts see few favorable votes and a great deal of opposition.[3] President Reagan opposes taxes and tariffs of any kind, and oil is no exception. Pressured by the oil industry, however, President Reagan ordered the Department of Energy (DOE) to examine the problem of energy security and the need for an oil tariff.[4] *Energy Security*, the resulting study from the DOE, provided new and surprising support for the Administration's long standing opposition to an oil tariff.[5]

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[1] Thanks to Hill Huntington, Dale Jorgenson, Henry Lee, Dave Montgomery, Bijan Mossavar-Rahmani, Irwin Stelzer, Philip Verleger, and John Weyant for helpful suggestions that led to this paper. The errors and conclusions are the sole responsibility of the author.

[2] *Factors Affecting U.S. Oil and Gas Outlook*, A Report of the National Petroleum Council, Washington, DC, February 1987, pp. 13.

[3] A variety of bills have been introduced in the 100th Congress. However, in its survey of the U.S. Congress, Cambridge Energy Research Associates reports that in January 1987 22% favored and 48% opposed a tariff, nearly the same as the 20% and 54%, respectively, in May 1986; Cambridge Energy Research Associates, Cambridge MA, March 1987.

[4] The President disclosed his intention at a speech in New Orleans, September 18, 1986. The New York Times of September 20 (p. 35) reported that "President Reagan today ordered a high-level review of the nation's security in energy, but the action was regarded as essentially a device to improve the election chances of oil patch Republicans, various industry and political sources said."

There is no surprise in DOE's rejection of on oil import fee. Given the strong stance at the White House, any arm of the Administration would be expected to emphasize the available arguments against a tariff. For example, an oil tariff might complicate trade negotiations with Japan; exceptions and loopholes might eliminate the benefits of any tariff; or the government might create a new bureaucratic morass in administering an oil tariff. These and other objections have been applied elsewhere to negate the usual calculation that an oil tariff would improve energy security and provide long-run economic benefits for the United States.[6] Although these arguments remain, the surprise from the DOE is in its finding that the usual calculations of overall economic benefits are wrong. The DOE agrees that an oil tariff would reduced domestic use of oil, increase domestic production, lower the world oil price and generally improve energy security:

> For a $10 fee, the value of these benefits to energy security and in reduced world oil prices is estimated at about $46 billion (net present value in 1985 dollars).[7]

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[5] Energy Security, Department of Energy, March 1987.

[6] Harry G. Broadman, "The Social Cost of Imported Oil," Energy Journal, June 1986. Harry G. Broadman and William W. Hogan, "Oil Tariff Policy in an Uncertain Market," Discussion Paper E-86-11, Energy And Environmental Policy Center, Harvard University, November 1986.

[7] DOE, p. 73.

But this is only part of the story. While others have recognized that a tariff would cause some temporary disturbance in the economy, the long-run benefits have been seen as worth the modest temporary costs.[8] But the DOE concludes:

> A $10 fee would have a major economic impact, reducing GNP by about $30 to $45 billion per year and causing a one-time inflationary effect of 2 or 3 percentage points. The cumulative costs of a $10 fee over the next decade could reach $200 billion (net present value in 1985 dollars).[9]

This is the $200 billion dollar surprise. As it stands, the DOE study turns the economic tables. Previous economic calculations had suggested that the special conditions in the oil market pointed to large net benefits from an oil tariff, and opposition to the tariff stood on relatively weaker arguments. But if previous calculations have been wrong, and an oil tariff would create large net economic costs, there would be few arguments left in support of an oil tariff.

What produced the $200 billion surprise? And what findings remain in the analysis of oil import fees? The answers are straightforward: the $200 billion cost is produced by assuming that the economy is perpetually "shocked" by a tariff, never adjusts, and that government monetary and fiscal policy does not offset its effect. If these assumptions are replaced with a view of a more flexible economy and a government policy to avoid recession, the quantifiable benefits of a tariff exceed the estimated costs. The remaining arguments against a tariff require difficult judgments that cannot be avoided by appeal to a definitive cost-benefit analysis.

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[8] Broadman and Hogan, pp. 51-52.

[9] DOE, p. 73.

Cost-Benefit Analysis

Everyone knows that free trade promotes economic efficiency. And protectionism stifles competition. Both theory taught in a first course in economics and common recollection of the high costs of past trade wars reinforce this conventional wisdom. In practical debates, free trade policy provides a strong anchor in a confusing sea of proposals for protection of domestic industries. Government officials can invoke free trade dogma in a wide variety of situations involving complicated facts or heavy political pressure. In general, a free trade policy is a worthy goal and a useful guide to action. Any attempt to overturn the general policy in a specific case should face a strong burden of proof.

One danger of dogma, of course, is that it is not amenable to dispute on the basis of analysis or evidence. Fortunately, the DOE study goes well beyond assertion of general principles and presents a well organized analysis of the problems of oil trade and energy security. While asserting the importance of free markets and competition, the DOE recognizes that there can be exceptions to the general rule of favoring free trade. If the oil market is not a free market, which it is not, then appeals to preserve a free market should not persuade. If the self-interested choices of private actors do not work in the best interest of the nation as a whole, which they may not in the case of energy security, then there may be a role for government intervention:

> Fundamentally, a healthy economy in the United States rests upon the operation of free and competitive markets. There are situations, however, where free and competitive markets do not exist... and other instances in which national security is particularly threatened. In considering specific government actions to meet such conditions, it must be recognized that a strong economy and national security are complementary goals.[10]

If the arguments in principle, i.e., the general rules-of-thumb in favor of free trade, do not apply, then the alternative is an analysis of the costs and benefits of selected actions.

> The best way to weigh the advisability of taking any specific government action is to compare the likely benefits (in terms of the country's economic health and its national security) against the costs from it that can be foreseen.[11]

If the benefits significantly outweigh the potential costs, there will be a stronger case for intervention. Naturally, in any real policy matter, not all the important issues can be summarized neatly in a cost-benefit analysis. There will be ample room for judgment and disagreement over the best policy, and oil import policy is no exception. But the great value in the DOE analysis, along with other reports recently produced, is in organizing the framework for sharpening the discussion of the policy disputes. The cost-benefit analysis simplifies the problem, isolates the points of debate and emphasizes the key judgments that should determine the final policy stance.

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[10] DOE, p.9.

[11] DOE, p. 10. Emphasis in the original.

Tariffs and Economic Efficiency

The DOE study reviews a familiar litany of reasons why private market decisions might work against maximization of national welfare. For example, although the domestic oil market may be workably competitive, the international oil market is the premier example of a market manipulated by an international cartel. Despite the oil cartel's difficulties of recent years, production in early 1987 was far below capacity and prices were far above costs. Hence leaving this market alone provides no guarantee or even promise of efficient utilization of resources either in the world or in the United States.

Furthermore, individual decisions to use more or less oil create national costs that are not accounted for in individual transactions. When I buy an additional barrel of oil, I have a small effect on the price that everyone else pays. Because of this increase in cost for everyone, the national import bill goes up by more than just the price I pay for the additional barrel. But I don't recognize the true cost to the nation, only the cost to me.

Similarly, when I pay more dollars for oil, it has an impact on the balance of trade and the exchange rate for dollars. Indirectly, the additional oil purchases may raise the real costs of other imported goods such as Toyota cars. But I don't see this cost to the nation when making a decision to buy another barrel of oil. My purchase has other adverse consequences on the economy as a whole: the oil price increases I trigger increase the rate of inflation, often inducing policy response (e.g., tight money) that in turn leads to increased unemployment.

In addition, the volume of oil imports may play a significant role in determining the likelihood and the costs of future supply interruptions in the oil market. Future oil production will come more and more from the notably unstable region of the Persian Gulf. When sudden events disrupt the flow, and lead to large jumps in oil prices, the consequences have been and probably will be major unanticipated economic costs in the form of recessions and sudden inflation. These periodic disruptions impose large costs on the nation. And the DOE study argues that higher oil imports before the disruption can increase these costs. Yet I don't include these costs in making the decision to buy another barrel of oil.

These discrepancies between private and public costs raise the potential for improvement in national welfare through government intervention. The free market may not provide the most efficient allocation of resources. Furthermore, world economic efficiency has already been reduced through the intervention of the governments participating in the oil cartel. To the extent that the difference between private and public costs is large and robust, the United States government could improve national welfare by changing domestic consumption and production decisions to reflect the total cost of oil imports, not just the private cost reflected in market transactions. The optimal tariff would achieve this purpose by forcing domestic markets to pay the true national cost of oil.

The DOE analysis quite properly sets out to measure the total costs and benefits of oil imports to the United States in order to evaluate the merits of an oil tariff.

Costs and Benefits of Oil Tariffs

The cost-benefit analysis divides roughly into two components. The microeconomic analysis of supply, demand and substitution, which tallies up the changes in the utilization of oil and other resources, and the macroeconomic analysis of aggregate employment of resources. The microeconomic analysis traces through the changes that would occur in the market if the United States adopted an oil import fee. For example, a higher domestic price of oil would provide incentives for reduced demand. This reduced demand would require substitution of other resources, such as capital and labor, at a cost, or the elimination of some uses of oil whose value was less than the new cost of oil. The reduction in benefits for consumers is a cost of the tariff. Similarly, the higher domestic price would stimulate new domestic production of oil that was not otherwise profitable. The increase in production costs represents a true cost to the nation.

But both the lower demand and the higher domestic production would lead to a reduction in demand for oil imports. This lower demand for oil imports should lead to a lower world oil price, producing savings on both the direct payments for a lower volume of oil and the lower price for the remaining oil imports. This reduction in the total import bill is a benefit for the United States. If the tariff produces a large enough reduction in world oil prices, then the costs of lower demand and higher domestic production may be worth the benefit of a lower import bill.

In addition to the adjustment of supply and demand, the DOE analysis recognizes that instability in the world market creates other costs that should be considered in evaluating oil imports. Whatever the direct source of our imported oil, supplies from the Persian Gulf have an immediate and direct impact on the price of oil everywhere. If there is a disruption of supply, especially in a tight market, prices will jump everywhere. The unexpected jump in import price will impose large costs on the United States economy as our experience with past OPEC-induced price shocks shows. And the greater the oil imports, the greater the cost.

The DOE study applies an array of models to estimate the components of these costs and benefits. How much will demand change, supply increase and world price fall? What is the likelihood of an oil import disruption, and how much will the price jump? And so on. The DOE quantifies these effects and totals up the costs and benefits of the changes in the market place.

Naturally, there is room for disagreement in each of these estimates. For example, the DOE analysis recognizes that changes in oil imports will have a balance of payments impact, thereby changing the terms of trade for other goods and services. Others have estimated that this balance-of-payments effect could be a significant element in the analysis[12], but the DOE study does not attempt to quantify these costs and benefits. But the differences are matters of detail, compared to the macroeconomic costs, and should not affect the direction of the best tariff policy.[13]

The usual microeconomic cost-benefit framework for analyzing prices and quantities in markets assumes that producers and consumers operate efficiently given the prices that they face. In other words, it is an analysis of the possible changes in potential output of the economy. Capital and labor see different returns, adjust to the new prices, and provide the most efficient output given the new higher costs of oil. No allowance is made for unused resources. During a supply disruption, however, sudden changes in prices may overtake the ability of the economy to adjust and redeploy resources. There may be temporary, unintended unemployment. The output lost from unemployed capital and labor foregone, while the economy adjusts, is a real cost to the nation. This lost output should be included in the aggregate costs of oil imports. If higher oil imports lead to greater disruption price increases, there is a further argument in favor of an oil tariff.

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[12] For example, William D. Nordhaus, "The Energy Crisis and Macroeconomic Policy," Energy Journal, Vol.1, No.1, January 1980. For a summary of more recent estimates, see Broadman and Hogan, 1986.

[13] Other differences include the treatment of the effects of inflation, which is handled implicitly in the DOE analysis. More on this below. For an alternative approach, see Hogan and Broadman, 1986.

This disruption-induced unemployment is part of the macroeconomic analysis. In addition to the microeconomic calculation of costs and benefits of a change in potential output, there is the additional possibility of oil-price-induced reductions of actual output below potential output. Both types of costs should be included in evaluating an oil import fee. The DOE recognizes these costs and includes them in the overall evaluation of a tariff.

The analysis of these details occupies most of the DOE study. Thanks to the scope and care of the DOE analysis, readers of Energy Security can learn a great deal about the underlying assumptions. As mentioned, every assumption presents some opportunity for debate, but these details are not the focus of this review: the forest is more important than the trees. With the exception of one component, the DOE cost benefit analysis concludes that there are significant net benefits from an oil import fee. According to the DOE study, only $11 billion of the $200 billion it estimates to be the cost of an oil tariff is a loss in output potential. Hence the changes in supply, demand, world prices and disruption costs associated with a $10 per barrel oil import fee produce net benefits over the first decade of $35 billion.[14]

If the United States would save $35 billion by adopting an oil import fee, why not? The DOE answer emphasizes the one exception: the macroeconomic costs of the tariff itself.

Macroeconomic Costs of Oil Tariffs

In the long run, an oil tariff should reduce demand for oil, increase domestic crude oil production, lower world oil prices, reduce the impact of supply disruptions and produce $35 billion in net benefits. But in the short run, an oil tariff would increase domestic prices and create its own costs. It has been common to recognize these costs, but to dismiss them as small, transitory and of little immediate importance given the recent fall in oil prices:

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[14] The discount rate for the net benefit calculation is 10% real, see Energy Security, p. D-14. This is at the high end of real discount rates for national welfare calculations. The horizon of ten years leaves open the question of the net benefits in later years. Since to biggest costs of a tariff are in the early years, this ten year assumption with a high discount rate may understate the net benefits of a tariff.

> ...imposition of any tariff will create costs during the process of adjustment to the selected tariff level...the assumption underlying our analysis is that these transition costs are modest compared to the long-term benefits of a tariff...With oil prices at a low level, and the economy adjusting to the change from higher prices, there should be relatively little transition problem if a tariff is imposed before oil prices would start to rise again.[15]

By contrast, the DOE study concludes that the macroeconomic costs of an oil tariff are neither temporary nor modest. This is the $200 billion surprise. DOE estimates that the present value of the macroeconomic loss from a $10 tariff would be $200 billion.[16] This would swamp the supposed $46 billion in benefits and, in one stroke, erase the principal argument for an oil import fee. Apparently this is a detail that matters. What is the analytical support for this estimate?

A simple answer is that the DOE study treats the $10 tariff as a surprise -- every year!

> DOE has estimated that the costs of a self-inflicted oil price shock (such as an import fee) are substantially greater than its benefits...[17]

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[15] Broadman and Hogan, pp. 51-52. 1986.

[16] DOE, p. 73.

[17] DOE, p. C-11.

DOE assumes that a $10 tariff produces the same GNP loss as a $10 price jump due to a supply interruption, even if the tariff has been in place for one, or two, or ten years.[18] In essence, this assumes that the economy never adjusts to the tariff. There is no flexibility to redeploy domestic resources and return actual GNP to a full employment output. If workers who produce recreational vehicles, where demand will decline, cannot be retrained to produce heat recovery systems, where demand will increase, then these workers will be permanently unemployed because of an oil tariff just as they would be temporarily unemployed because of an oil shock. This assumption is particularly surprising, coming as it does from a free market administration generally willing to have society bear the transition costs associated with economic change. But, given this assumption, DOE's result is no longer a surprise. If this assumption is correct, an oil tariff would create large costs.

The treatment of a tariff as a sustained disruption is a literal description of the DOE analysis. However, this simple answer could be seen as an approximation of a more complicated reality. The DOE study discusses at some length the difficulty of separating the long-run change in potential output from the cyclical change in actual GNP as unemployment rises and then falls in response to higher oil prices. The apparent conclusion is that the cyclical effect, the reduction in actual below-potential GNP, is temporary, and the long-run change in potential GNP is small:

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[18] This assumption is not clear from the text, but it is clear in the examination of the formulas behind tables B-1 through C-4 of Appendix D. The formulas appear in spreadsheets available from the Energy Information Administration of the Department of Energy and documented in "Documentation of the Lotus 1-2-3 Spreadsheet Used in the Oil Import Fee Service Report," mimeo, Energy Information Administration, Department of Energy, March 24, 1987. The 'Oil Import Fee Service Report' mentioned is "Cost and Benefit Analysis of an Oil Import Fee," SR/EAFD/87-03, Energy Information Administration, Department of Energy, March 1987, which is the apparent source for as Appendix D of Energy Security.

> The working group concluded that variations in oil price assumptions of the magnitude considered ultimately will have only a small impact on the long-run level of aggregate production in the economy.[19]

In any event, the cyclical reduction of actual below potential GNP should be the focus of the macroeconomic analysis. The long-run change in potential GNP should not be tallied again because this is accounted for in the detailed microeconomic analysis of changes in supply and demand that produce net benefits of $35 billion. The only incremental costs should be in the temporary transition costs after the tariff is imposed.[20] And it is possible that this transition cost could be large, even large enough to be of the same magnitude as if the tariff was a surprise every year. In this case, there would be no harm in the simplification of using the same model to calculate the shock effects and the long-run impacts of an oil tariff.

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[19] DOE, p. C-4.

[20] The DOE study recognizes the short-hand approximations in the use of GNP to calculate welfare changes. The consumer surplus calculation in the detailed microeconomic analysis estimates the change in GNP assuming the same inputs of capital and labor. The measured GNP may be lower, however, because of a different time path of investment due to higher energy prices. But in the calculation of potential GNP, the lower capital stock results from a reallocation of consumption and investment over time, which increase rather than decreases welfare. Hence the point estimate of lower potential GNP due to a lower capital stock should not be counted as a reduction in welfare. The additional macroeconomic costs should be estimated only as the deviation of actual from potential GNP.

This is the apparent conclusion and tactic in the DOE study. The discussion and accompanying graph on page C-3 of Energy Security summarize three different analyses of the transition costs. Two involve detailed macroeconomic models based on the Data Resources Inc. (DRI) system[21], and the third is the simple model used to calculate the cost of oil supply disruptions over one year. Although the timing of the impacts is different in each case, the present value of the GNP reductions is nearly the same in all cases. Both the detailed models and the simple model yield the $200 billion surprise. Hence, the DOE study elects the simple model as the vehicle for calculating the macroeconomic impacts of a tariff.

Given the advantages of simple models, this is often an attractive tactic. Besides being easy to use, the simple model is transparent, revealing the key assumptions. In this case, however, the justification is more indirect. On its face, the simple model makes little sense as a description of the macroeconomic impacts of an oil tariff--surely the economy will not be just as surprised in the tenth year as in the first. But if it serves as a summary of the more detailed calculations, this defect need not be fatal. Unfortunately, in this case, the simple model obscures the key assumptions, and the detailed calculations depend critically on these assumptions.

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[21] One is the Data Resources Inc. (DRI) Annual Model; the other is MINMAC, a DOE adaptation of an earlier version of the DRI model.

What are the key assumptions in this macroeconomic analysis? The answer matters. At one end, plausible assumptions, explicit or implicit in most other studies, yield little or no cyclical macroeconomic impact of an oil tariff. For example, if the tariff is fully anticipated and the funds recycled, there need be no "surprise" and no aggregate reduction in income. In such an "accomodation" policy, the tariff revenue might be used to avoid an increase in social security taxes, and the domestic oil industry would spend its increased revenue, resulting in no increase in aggregate unemployment. To be sure, there will be wealth transfers within the economy and a (supposedly desirable) reallocation of economic activity, but no necessary loss in output. Over the long-run, economic output goes up (by $35 billion according to the DOE calculations), not down.

So we are back to our original finding: the cyclical macroeconomic loss resulting from a tariff would be temporary, resulting from inevitable imperfections of policy and markets. But the loss need not be large: its size would depend in part on the policy adopted by the government as part of the implementation of an oil tariff. At one extreme would be the "no accomodation" policy: leave the money supply unaffected and use the tariff revenue to reduce the deficit. The fixed money supply, coupled with the tariff-induced price increases, would maximize the recessionary effect of inflation, producing a contraction in the economy in order to reduce other prices and eliminate all or most of the aggregate price increase. The deficit reduction strategy would maximize the recessionary effect of fiscal policy by reducing aggregate demand and increasing unemployment. The "no accomodation" policy would hurt: raising taxes without increasing spending lowers the deficit, but it hurts. That is why we have had such difficulty in cutting the federal deficit.

In evaluating an oil tariff, however, tying the tariff to deficit reduction is a distraction from the evaluation of energy policy. To the degree that an oil tariff and deficit management are separable, they should be evaluated on their own merits. If an oil tariff is good, because it produces net benefits of $35 billion under a policy of accomodation, and deficit reduction is bad, because it creates $200 billion in macroeconomic loss, then adopt the tariff and live with the deficit. But don't mistake the costs of deficit reduction for the unavoidable costs of an oil tariff.

In this spectrum between frictionless accomodation and no accomodation, the DOE study falls towards the end of no accomodation. The precise assumptions are not given, but discussions with DOE confirm this inference. More to the point, a parallel study by DRI calculates similar macroeconomic losses assuming "...'partially accommodating' monetary policy because it allows the money supply (M1) to expand with the increase in prices, but not enough to keep interest rates from rising. This would be the Fed's likely strategy if it considered the tax a desirable national policy and if it were more concerned with reducing the deficit than with holding down inflation."[22] In addition, DRI counts no benefits from lower world oil prices since "...we assume the oil taxes and the effect they have on U.S. demand are not sufficient to lower world oil prices."[23]

Is this restrictive policy inevitable? If not, how much of the macroeconomic loss can be avoided? While there is much debate on these matters, the most intensive attempt to answer these questions can be found in the work of the Energy Modeling Forum (EMF) study.[24] The EMF coordinated a comparison of fourteen macroeconomic models, including models developed by DRI, other economic consulting companies and the U.S. government. The purpose was to evaluate mechanisms and magnitudes of macroeconomic impacts of energy price shocks. The EMF work is well regarded, and the DOE study cites the EMF work in its analysis of oil disruptions.[25] Although the EMF focused on the analysis of external shocks, where foreign oil suppliers cause the price increase, it sheds a good bit of light on the debate over the impact of an oil tariff.

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[22] Joyce Yanchar and Christopher Caton, "Energy Taxes: Still Not a Good Idea," Data Resources U.S. Review, Lexington, MA, March 1987, p. 18. In this study, a $5 per barrel oil tariff produces $140 billion in macroeconomic losses evaluated with the DOE's 10% discount rate over the period 1987 to 1991.

[23] Ibid., p. 19.

[24] "Macroeconomic Impacts of Energy Shocks: A Summary of Key Results," Energy Modeling Forum, Stanford University, September 1984 (revised April 1986), EMF 7-2.

[25] DOE, p. C-9.

The EMF analysis considers a permanent shift in the price of imported oil. In the closest case to a $10 tariff with no monetary or fiscal policy response, the EMF estimated the loss as $160 billion.[26] But when government acts to provide a combination of monetary and fiscal policy adjustments, such as expanding the money supply and reducing other taxes, virtually all of the loss is avoided.[27] The average combination of monetary and fiscal policies examined reduced the median loss estimate by a factor of ten!

The cost of adjustment cited by the DOE as the principal argument against a tariff, therefore, comes from the monetary and fiscal policy response -- more precisely, the absence of a response -- to the oil tariff. If an oil tariff is desirable on other grounds, there is no necessary requirement that we meet the temporary oil price inflation with a restrictive monetary policy. Accommodating the shift in domestic prices would provide an opportunity to make the relative price adjustments without increasing unemployment to force changes in other prices. Similarly, fiscal policy for management of the deficit is a separable problem. Using the tariff revenues to reduce the Federal deficit may depress the economy, but the macroeconomic problem is caused by the deficit reduction, not by anything inherent in the oil tariff. According to the EMF study, an oil tariff combined with a policy of monetary accomodation and recycling of the revenue need not produce any large cyclical reduction of actual output below potential output.

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[26] The policy assumption is from EMF, Table B.1, p.118. The closest case is the 20% shock which implies a $7.20 per barrel increase in 1983 dollars, or $7.98 in 1986 dollars. The impact of the $7.20 shock is an average annual real GNP loss of 1% over the four year horizon. In a $4000 billion economy, this is a $160 billion loss.

[27] EMF, Table 11, p. 56.

A policy of recycling revenues and managing the economy to maintain employment is implicit or explicit in many analyses of oil tariffs.[28] These studies calculate the costs and benefits of a tariff in terms of the changes in supply, demand, prices and levels of imports. Such adjustments affect the output capacity of the economy. An oil tariff reduces potential output, but it also redirects more of that output for domestic use. These costs and benefits must be weighed just as in the DOE study which calculates their net at $35 billion in benefits. Unless an oil tariff unavoidably leads to actual output substantially below potential output, however, there is no additional macroeconomic cost. Of course, the assumption of perfect adjustment and no macroeconomic loss is too optimistic, but attributing the $200 billion surprise to the macroeconomic cost of an oil tariff is like blaming hangovers on ice cubes.

Cost of Adjustment

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[28] Broadman, 1986.

If perfect adjustment policies are unrealistic, and ignoring adjustment policy opportunities is unnecessary, how large will the adjustment costs be during a transition to a new price level induced by an oil tariff? One conservative approximation would treat the tariff-induced price increases as though they were equivalent to unexpected increases in the world price of oil. This assumes that government policies make no distinction between alternative sources of price increases, and that the economy adjusts to "unexpected" higher prices in one year: DOE's "constant surprise" assumption is eliminated. This one year adjustment assumption is consistent with both the treatment of disruptions and the principal empirical study cited in the DOE report.[29]

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[29] The DOE study (p. C-9) refers to the work of Darby as a source for estimating the impacts of oil price shocks; Michael R. Darby, "The Price of Oil and World Inflation and Recession," American Economic Review, Vol. 72, No. 4, September 1982, pp. 738-751. Darby's paper and its application in the DOE study raise a number of points of interest. Darby formulates a model that relates the real GNP to short run shocks in the price of oil and long run changes in oil price that might affect potential GNP. He analyzes several countries; his data for the United States are quarterly for the period 1957I to 1976IV. The short run effect is lagged up to four quarters, and is by assumption complete in one year. For the United States, the rough magnitude of the point estimate for the short-run shock effect is about the same as the estimate of the long-run impact on potential GNP. However, the short-run estimate is statistically significant, and the long-run estimate is not -- the standard error is larger than the point estimate. Hence, for the United States, Darby could not reject the hypothesis that there is only a one year impact and no long run macroeconomic cost. Darby conducts other empirical tests on the U.S. data that provide further support for the hypothesis of no GNP effect beyond the first year. The only evidence for a long run effect comes from the data for other countries, but Darby acknowledges that the evidence for other countries through 1976 was so contradictory and weak that we should be "surprised not by diversity but firmness of opinion." The DOE (p. C-9) applies Darby's statistically insignificant long run elasticity to calculate the short run effects of an oil supply disruption. Later they use this same elasticity to calculate the permanent long run effects of an oil price

If we adopt this alternative model but keep the other assumptions from the DOE study, the estimate of the present value of the macroeconomic loss (due to cyclical reductions in actual below potential output) drops from $189 billion to $25 billion. To calculate the net benefits, one additional change corrects an apparently inadvertent double counting of this macroeconomic loss with the loss during a disruption.[30] With these two adjustments, the net present value of benefits over the first ten years switches from a loss of $141 billion to a gain of $10 billion: a tariff would, indeed, have positive effects.

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tariff. But the studies of the EMF and Darby's data combined are consistent with the opposite interpretation of Darby's paper; namely, there is a significant short run effect but no permanent potential GNP loss given a permanent change in oil price. It seems to be only a coincidence that the four quarterly GNP-oil price elasticities from Darby's paper (-0.021, -0.022, -0.009, -0.018 with respective t-statistics of -1.897, -2.074, -0.092, -1.650) are roughly consistent with the long run point estimate of -0.021, which has a t-statistic of -0.732.

[30] The DOE calculation of the savings in disruption cost looks only at the difference in GNP caused by the lower price associated with lower imports. This ignores the higher base price in the case of the tariff, and in effect double counts the macroeconomic loss of the tariff. The details appear in the spreadsheet supporting the DOE study. This is a minor detail but is included for sake of consistency.

An alternative approach to calculation of adjustment costs is to apply a Phillips curve analysis of the type used in Broadman and Hogan.[31] In this analysis, only part of the oil-related inflation is accomodated through expansion of the money supply. Each point of unaccommodated inflation leads to two points of increased unemployment. With an approximation to Okun's law, each point of unemployment leads to two points of reduced output. Under the base case assumptions from Broadman and Hogan, with a partial accommodation of policy that only restricts the economy enough to eliminate 30% of the induced inflation, there is a significant effect on macroeconomic performance. In the first year, higher inflation reduces actual output. In later years, lower oil price inflation, driven by lower oil imports, increases macroeconomic growth. Applying these assumptions to the DOE model, the present value of the macroeconomic loss is $36 billion, and the net of costs and benefits over a ten year horizon is a loss of $1 billion.[32]

Other assumptions in the DOE study have significant effects on the net benefit calculation. For instance, the ten year horizon captures the highest costs but ignores some of the residual benefits of an oil tariff. In addition, the 10% real discount rate is high as a measure of tradeoffs in social welfare over time. A lower discount rate could be applied. The table below summarizes the impacts on net benefits of changing the horizon and changing the discount rate.[33]

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[31] Broadman and Hogan, 1986.

[32] Derived through the author's calculations applying the oil price increase to the volume of oil products supplied in the DOE scenario, 30% of the resulting contribution to inflation is left unaccommodated, each point of unaccommodated inflation produces two points of unemployment, and each point of unemployment produces two points of lost output at the margin.

Net Present Benefits in 1987
[Billions of 1985 dollars]

		Discount Rate	
		10%	5%
DOE Assumptions	[10 year horizon]	(141)	(158)
	[Infinite horizon]	(144)	(238)
One Year Adjustment Analysis	[10 year horizon]	10	23
	[Infinite horizon]	44	147
Phillips Curve Analysis	[10 year horizon]	(1)	12
	[Infinite horizon]	31	125

The table summarizes the impact of the DOE treatment of an oil tariff as a surprise every year. Even after the tenth year, the continuing macroeconomic costs of the "self-inflicted oil price shock" outweigh any benefits of lower priced oil or reduced costs of oil disruptions. Under this assumption, the costs outweigh the benefits every year; hence a longer time horizon or lower discount rate results in higher net costs. Changing this one assumption, and treating "self-inflicted" price increases as no worse than price increases on the world market, reverses the direction of the cost-benefit analysis. And with a longer horizon or a lower discount rate, the benefits substantially exceed the costs.

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[33] The change in horizon takes the tenth year as representative of the future stream of costs and benefits. The disruption costs repeat once every ten years, as in the DOE analysis.

Alternative Tariff Estimates

The alternative analysis of the macroeconomic costs of adjustment suggests that an oil tariff would increase the economic welfare of the United States. In many ways, even this alternative analysis is conservative in understating the benefits of a tariff. For instance, it is reasonable to conjecture that the policy response to an oil tariff would be more favorable than the response to an equal increase in the price of oil charged by foreign producers. Furthermore, the macroeconomic costs based on historical data during tight markets should overestimate the macroeconomic costs of higher prices during the present period of excess supply and lower prices.

In addition, other factors could affect the estimate of the best tariff. As mentioned above, the DOE study bypasses quantification of the impact of oil imports on the balance of payments, which could lead to a higher tariff estimate. At the same time, the DOE made apparently generous assumptions about the impact of U.S. oil imports on world oil prices. If the estimate of the macroeconomic costs does not dominate the analysis, the DOE might wish to revisit some of its other assumptions. In any event, the net cost-benefit analysis of a $10 tariff provides only a little guidance as to the best level of an oil import fee.

Given the wide ranging impacts of an oil import fee, many factors could affect the estimate of the optimal tariff. As yet, no one has produced a complete analysis that integrates the dynamic analysis, macroeconomic costs, a full litany of social costs, comparative calculus of the optimal tariff and a characterization of the uncertainty in each. The DOE study contains the most detailed analysis of the dynamics of adjustments and the macroeconomic costs. The summary in Broadman and Hogan explores in greater depth the range of social costs, uncertainty and calculation of the optimal tariff in a comparative static analysis, all the while glossing over the problems of the transition.[34]

While more could be done to take the best from each analysis, the alternative evaluations of the aggregate costs and benefits of an oil tariff are remarkably consistent--except for the calculation of the macroeconomic costs. The one change in assumption on the estimation of the macroeconomic costs produces large net benefits for a $10 tariff under the DOE assumptions. Broadman and Hogan examined a wide range of other assumptions and produced a distribution of optimal tariff estimates as shown in the Figure.[35] The median value of these estimates is close to the $10 estimate. The probability dis-

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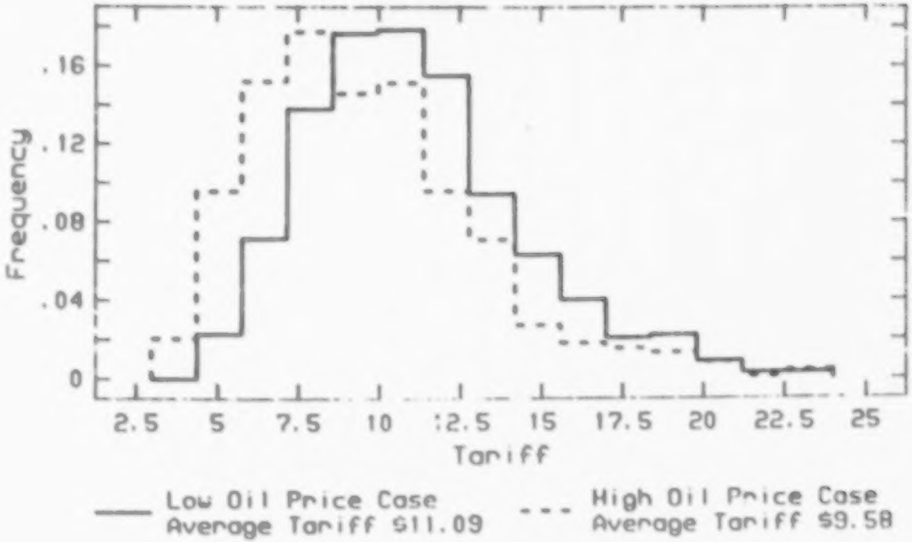
[34] Broadman and Hogan, 1986.

[35] Taken from Figure A.4 in Broadman and Hogan, November 1986, p. A-39.

After Netting Out Compensating Effects Oil Prices Have Little Impact on the Optimal Tariff

COMBINED TARIFF



Prices in 1985 dollars per barrel.

tribution shows that consistent assumptions could yield higher or lower estimates of the optimal oil tariff.

Other Arguments Against A Tariff

The DOE study offers a familiar list of other arguments against a tariff. A few are appealing on the surface, but seem flawed underneath. For example, a tariff would reduce the U.S. competitive position abroad.[36] True, but this is part of the solution, not the problem. To the extent that U.S. industry is buying oil at less than the cost to the nation, embedding the oil in other products and selling the embedded oil at less than its cost, the nation is subsidizing a bad business. Reducing this subsidy and redirecting industry towards other products is part of the solution.[37]

Another argument is that an oil tariff is a "drain America first" program.[38] This slogan presumes a fixed supply of domestic oil and raises a complicated issue of the relative security and value of oil over long periods. Since there is an effectively infinite continuum of alternatives to oil (e.g., coal liquids) at a cost, the intertemporal problem can be seen as one of timing the conversion away from oil, not just imported oil. In the extreme, if imported oil is expensive or dangerous enough, there is no necessity to import. It is a matter of cost. The intertemporal problem is one of balancing those relative costs. If oil is going to be even less secure in the future, or more cartelized, then this is more an argument for even larger tariffs later, which the domestic market must balance. The intertemporal argument is not an argument against a tariff *per se*.

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[36] DOE, p. 71.

[37] In comments on a draft of this paper, Philip Verleger suggests the need for an export rebate to preserve a delicate trade balance or in cases where oil consumption merely moves offshore.

[38] DOE, p. 73.

But this does not exhaust the list of arguments against a tariff.[39] Even accepting the special nature of the oil market, objections to a U.S. oil tariff may flow from conflicting policy goals, criticism that the market analysis is overly simplistic, or practical political limitations. The principal objections fall into three general categories: (i) oil market imperfections are relatively small and, therefore, there is no significant saving by trying to correct them; (ii) other trading arrangements will be compromised and, therefore, there are costs created elsewhere despite gains in the oil market; and (iii) government programs to intervene in a market often go awry and an oil tariff will be part of this pattern, i.e., such a tariff will produce more costs than benefits.

Each of these arguments has merit. The first, dealing with the measurement of market imperfections, is the subject of a separate paper.[40]

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[39] The remainder of this section is taken from Broadman and Hogan, pp. 34-37.

[40] Broadman and Hogan, 1986.

The bulk of our analysis points to significant imperfections and large external costs associated with the current U.S. free trade policy in oil. While there is room for debate here, the strongest case against a U.S. oil tariff lies elsewhere.

The second objection emphasizes linkages between U.S. oil trade policy and U.S. trade policy in general. Even if there are significant market imperfections associated with oil imports, opponents of a U.S. oil tariff argue that adoption of such a tariff would trigger a reaction in the trade policies of other countries. Foreign oil producers will respond by lowering production and raising prices, despite falling demand, and traders in other goods will use the precedent of a U.S. oil tariff to support similar restrictions on, for example, lumber, computers or automobiles.

> "The orthodox optimal trade argument is concerned about maximizing national income; world income as a whole is reduced, but at the same time is redistributed towards the trade-restricting country... The simple model assumes that foreign tariffs are given and that foreign governments will happily stand by and allow income to be redistributed against them... one might assume that if our country does not impose a tariff the foreign country will not do so either, but that the adoption of orthodox optimum tariff policy by us will provoke foreigners to embark on the same policy. Thus we we would start with free trade, and once we abandon it would provoke the reaction process...There is an element of 'retaliation', the foreign country retaliating by initiating the reaction process."[41]

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[41] W. M. Corden, Trade Policy and Economic Warfare, Clarendon Press, Oxford, 1978, p. 172-173. (emphasis in the original)

There is a danger here. If oil trade policy has a significant effect on all trade policies, then the cost of the current U.S. free market policy in oil may be the price we have to pay for free trade in other goods. A few of our oil trading partners have substantial additional trade with us. For example, a large percentage of U.S. non-oil imports come from Canada. If this trade would be adversely affected by a tariff on oil imports, then the linkage may be important. In this case, there will be pressures for exemptions from the tariff for certain producers.

If foreign oil producers respond to shrinking markets by raising prices or retaliating in other ways, then our oil trade policy faces still another market imperfection that may balance the cost calculations of a free market policy discussed above. Such a response by foreign oil producers has been suggested:

> "Such a vociferous demand for the imposition of trade restrictions, on account of low prices, as is currently prevalent, could constitute an invitation to producers to raise prices again, to restore them to their former levels."[42]

But to the extent that use of an oil U.S. tariff can be made to be seen only as a response to the initial restrictions on oil trade by foreign producers and the special instability of world oil supplies, and U.S. oil trade policy can be separated from other U.S. trade decisions, then the argument for a tariff based on measured external costs should prevail. The determination of whether such a separation of oil trade policy from general trade policy can be achieved involves a largely subjective judgment and one that is crucial to choosing the correct U.S. policy toward oil imports. But the danger of adverse consequences in other markets, even it it materializes, does not dispose of the argument for an oil tariff. Such a reaction is merely one of the costs of an oil tariff, to be weighed against its benefits.

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[42] Ahmed Zaki Yamani, "Oil Markets, Past Present and Future", speech delivered at Harvard University, Energy and Environmental Policy Center Symposium in conjunction with the 350th Anniversary celebrations, September 4, 1986.

The final, and oft-repeated, criticism of an oil tariff raises the specter of policy implementation that falls far short of the lofty ideals of policy design. An oil tariff would have a significant impact on the economy. There would be income transfers from domestic consumers to domestic producers of oil. Industries dependent on oil as a feedstock would face higher costs and more difficult competitive pressures in the world market. Each of these affected groups could be expected to ask for special consideration. There would also be requests for tariff exemptions for particular oil suppliers, especially secure suppliers in the Western Hemisphere.

In general, the more exceptions, the less the negative impact of a tariff. But, too, the more exceptions the less the economic saving produced by a tariff. The induced adjustments in consumption and production are the source of the economic benefits of a tariff and, therefore, any policy which exempts consumers and producers from making adjustments will correspondingly reduce these savings.

From a strictly ideological perspective, these arguments about the pressures for exemptions and exceptions generalize into a presumption that the bureaucratic detail of a tariff will create too many opportunities for special interests -- in other words, government cannot implement such a policy without causing more harm than good. Or the intervention now will create a precedent for other interventions later, repeating the drama of the mid 1970s when price controls subsidized oil imports. Although the tariff instrument actually employed would be unlikely to match the ideal suggested by our analysis, this judgment must be tempered in part by size of the optimal tariff and the magnitude of the savings from avoiding a free market policy. If the optimal tariff is large and the savings would be significant, then a less than perfect implementation should still produce net economic benefits.

Nevertheless, the possibility of extensive exemptions and exceptions raises a significant problem. The typical analysis of the optimal tariff assumes these special appeals will go unheeded.[43] A large number of exemptions and exceptions or a very small tariff, would result in little gain for the economy as a whole. In that case, the fear of the costs of the impact of such a precedent on broader trade policy might carry the day. The challenge is to implement a tariff without avoiding the economic adjustments that a tariff is intended to achieve. If by assumption this adjustment process is simply too hard in the real world of the politics of special interests, then by assumption the tariff is a bad policy.

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[43] Any exemption program involves a transfer of rents which may reduce the overall welfare of the nation. But it is possible to design the exemptions to preserve most of the incentives at the margin, thereby preserving the benefits of lower exposure to macroeconomic problems and oil supply interruptions. The key feature would be to limit the exemptions to inframarginal oil imports.

As a final note, observe that nowhere in the analysis of an oil tariff that maximizes national welfare is there reference to the protection of domestic U.S. oil producers. To be sure, domestic producers will be protected by an oil tariff. But this is a byproduct or an effect of the policy, not a goal. Despite the strong political motivations brought to bear by protectionist arguments, for and against, the force of the analysis by DOE and others is that these debates ignore the maximization of national wealth. The cost-benefit analysis implicitly equates national wealth with national welfare, netting out the redistribution from one citizen to another. Alternative views on redistribution should be approached with care. The popular images of oil producers and consumers are only partly correct, For example, higher payments for domestic oil go in part to pension funds and charitable foundations. The redistributional effects on particular regions and citizens are not obvious. Previous studies of increasing natural gas prices have concluded that

New England is a net beneficiary.[44] Oil is not so different, and the redistribution across the country will be more diffuse than the first round payments to the oil patch. In the end, the analysis indicates that the gains are greater than the losses, so the net impact is a gain to the nation.

Conclusion

From the perspective of the economic analysis of oil tariffs, the distinctive feature of the DOE study is the $200 billion dollar surprise. If this large estimate is correct, then implications are straightforward. At a minimum, any policy which raises domestic oil prices substantially above world levels would work to reduce national welfare. But even more. For this surprisingly large macroeconomic impact suggests a symmetric result. For the same reason that raising domestic oil prices could have a negative impact on macroeconomic performance, lowering domestic oil prices relative to prices in the rest of the world could have a positive macroeconomic effect. Over the range of price changes considered, the DOE study implies that this benefit would be large, much larger than the costs of subsidized imports, increased consumption and reduced domestic production.

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[44] Joseph P. Kalt, Henry Lee and Robert Leone, "Natural Gas Decontrol: A Northeast Industrial Perspective," Energy and Environmental Policy Center, E-82-09, Harvard University, October 1982.

This is not a new argument. The macroeconomic advantage of low domestic oil prices was a prime component of the rationale for oil price controls of the 1970's. Of course, at the time analysts argued for no more than a temporary period of price controls to ease the transition to higher world oil prices. In principle, there is an attraction to dampening economic shocks to give the economy time to adjust. But the DOE study goes further: it implies that even a permanent system of effective oil price controls would produce net benefits for the nation. The $200 billion estimate is pregnant with this surprising conclusion.

With my alternative view of the macroeconomic consequences of an oil import fee, the DOE study assumptions produce large net benefits for a $10 tariff. There is no support for permanent price controls, and the policy questions turn to the design of the optimal tariff or the search for other reasons to rebuff tariff proposals in spite of the economic analysis. Given the complexity of the political debate, the $10 per barrel median estimate meets the "round number" test and is at the upper end of practical feasibility. Hence the focus should be on the other arguments that counter or weaken the force of the economic analysis.

El Paso Times [illegible]

Please, let's not forget our lesson from OPEC

By Lee Iacocca
Special to the Times

A couple of weeks ago we saw one of those rare cracks in the Reagan administration's fanatic devotion to the "free market" when Vice President George Bush simply suggested that a little stability in world oil pricing might be a good thing.

Wow, all hell broke loose. It was heresy, and some of the real purists blew their corks! After all, the free-fall in oil prices right now is the greatest thing that ever has happened to supply-side economics. After five years of insufficient revenues and record deficits that were just starting to catch up with us, we get a reprieve through this cheap oil windfall.

All the vice president said was that we needed some "stability," and immediately the White House press people began issuing "clarifications" telling us that no matter what, they still believed in the free market, and oil prices could go wherever they damn well pleased.

Can they really believe there is a "free market" in oil, even though 75 percent of the world's oil is in the hands of people who have told us clearly that *they* don't believe in the free market? Can they be *that* naive?

Now, I know Bush got in trouble with some of his friends, but he was the only guy in the club making sense that week. I hope some of the others were listening.

Let's face it, we're all getting a windfall from cheap oil — the ad-

•Please see Iacocca, 3G

•Continued from 1G

ministration, the consumers, the auto industry, the airlines, just about everybody but the domestic oil producers and their bankers. (And who loves oilmen and bankers anyway, right?)

I should be dancing in the streets with the trickle-down guys, I guess, because Chrysler's selling its high-profit V-6's as fast as we can make them. And General Motors and Ford got the federal fuel economy law changed so we can sell even more of those big cars.

But I'm not dancing, because I've got a long memory. I know cheap gas for what it is, and it's a drug habit. We got hooked on it twice before, and when OPEC shut us off, the whole country got the shakes and my company almost died.

It was so serious in the '70s that we practically declared a national emergency. We got scared enough to do some smart things. We started conserving energy and encouraging domestic exploration. We vowed we'd regain our independence from OPEC and that they'd never get us by the throats again.

And it worked! We've cut our per capita energy consumption by a whopping 20 percent since the first oil shock in 1973. It worked so well, in fact, that OPEC came apart like a three-dollar watch.

Now some of the same people who rigged oil prices up in the '70s are rigging them down in the '80s to whip the cartel back in shape and regain control of the market. When that happens, watch out because oil prices will go through the roof all over again, and we'll be right back where we started.

But we don't have to let that happen. We can protect ourselves. There are two things we can do, and both of them will hurt a little.

First, we hang onto the conservation programs that worked, like the Corporate Average Fuel Economy law (CAFE). The government caved in to the Big Two last year and rolled back the standards for the 1986 models, and it looks like they'll cave in again on the '87 and '88 cars. (And it saves GM and Ford $700 million in fines to boot — talk about bailouts!)

Chrysler has fought the rollbacks, and the others say we're poor sports because we put more fuel-efficient cars in our fleet and we're able to meet the standards. Well, sure we did. It was the law, and we obeyed it! Isn't that what we were *supposed* to do? I never thought you'd be a sucker in this country for obeying the law.

And the law made sense. We drove right into OPEC's ambush with our gas hogs twice already. Are we going to do it again?

Second, we ought to put a tax on gas and an import fee on oil to keep our feet to the fire on conservation, to let our domestic producers compete, and, incidentally, make a huge dent in our federal deficits.

Our federal tax is only 9 cents, and when you add in state and local taxes, the average in the United States is still only a quarter. In Germany, that same gallon has 85 cents in tax; in Sweden, a buck; in France, $1.55; and in Italy it's $1.71.

The truth is, we really have a made-in-heaven chance right now to do something about the deficit without much real pain to consumers. God and OPEC will never be this good to us again. Every penny at the pump gets a cool billion bucks, and every $1 on a barrel of imported oil means almost $2 billion.

So 15 cents at the pump and $5 per barrel on imported oil is a quick $25 billion. By the way, if you think the controversial $5 import fee is a bailout for the oil industry, then go with a 25-cent gas tax — that's still $25 billion.

This is the famous "two-fer" — conserve energy and cut the deficit. But I've got no illusions. It would be very unpopular. The President told me once that it would be about the most unpopular thing he could do. And I've gotten some angry letters from people who say I'm all wet on energy taxes. But it makes sense, popular or not, and we ought to do it.

'w York T
YORK, TUESDAY, FEBRUARY 17, 1987

U.S. OIL SHORTAGES SEEM UNAVOIDABLE TO MANY ANALYSTS

$18 Price Called Insufficient to End Further Plunges in Domestic Production

By ROBERT D. HERSHEY Jr.

Despite higher prices and a more stable market, the United States is almost inevitably headed toward new oil shortages that could be as disruptive as those of the 1970's, according to increasingly urgent warnings by Government policy makers and other analysts.

After nearly a year of wild fluctuations in which the oil price was cut roughly in half, the OPEC countries now seem to be establishing a price of about $18 a barrel. But while this price, which is almost double the lows of last summer, has the unofficial blessing of the Reagan Administration and some major oil companies, it is generally regarded as insufficient to prevent further steep declines in domestic production.

As a result, many specialists say, American dependence on foreign oil could by 1990 soar to new peaks and could reach a dangerous 50 percent by 1995. This, in turn, implies renewed control of the oil market by the Organization of Petroleum Exporting Countries.

'Sitting in Gas Lines'

The latest, and perhaps strongest, warning came last week from Interior Secretary Donald P. Hodel, formerly Secretary of Energy. "People will be sitting in gas lines" again, he flatly predicted, "anytime within the next two to five years."

With OPEC back "in the driver's seat," Mr. Hodel added, the organization will have restored its ability to use oil for political ends, such as the 1973-74 embargo by its Arab members [redacted]

Although [illegible] $18 a barrel — equivalent to about $19.50 for the benchmark American grade of West Texas crude — is considered a "survival" level for [illegible] domestic [illegible] analysts agree it gives the United States almost no chance of halting what Government figures published last month show was an unexpectedly

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U.S. Oil Shortages Predicted

Continued From Page 1, Section 1

sharp drop in oil production in 1986.

When combined with rising consumption, this lag in domestic output points to dangerously high levels of imports, with adverse implications for national security, foreign policy, the trade balance and the general health of the economy.

"We are today sowing the seeds of the next energy crisis," James R. Schlesinger, formerly Secretary of Energy and Secretary of Defense, told Congress recently. "The same falling oil price that provides consumer benefits and provides a macroeconomic stimulus while easing inflation and interest rates also implies serious problems for domestic oil supply and national security."

Although the nation has taken steps in the last decade to reduce the impact of such supply disruptions — the most important step may be the building of a large strategic stockpile with more than 510 million barrels — the brutal geopolitical facts of world oil remain stacked against the United States and its similarly situated allies.

About two-thirds of the world's reserves not controlled by Communist countries — and currently unused production capacity — are in the politically volatile Persian Gulf. There, the oil is so easy to recover that the nations that control it can undersell and drive from the market virtually any competitor.

At the same time, the industrialized countries account for two-thirds of non-Communist consumption, much of it absolutely essential. In the United States, for example, 97 percent of the fuel used for transportation is oil for which there is no ready substitute.

Because of the current world surplus, reflected in lower prices, "many people have lost sight of the fact that the oil market is not only very fragile, but it is also controlled by others," said Senator James A. McClure of Idaho, the ranking Republican on the Senate Energy Committee.

Although American vulnerability in oil cannot be gauged simply by the percentage of imports — the source, price and other factors are also important — it is agreed that heavy dependence on Mideast supplies is highly risky.

Saudi Arabia a Key Supplier

While United States reliance on Persian Gulf oil is far less than it was 15 years ago, the amount imported from the Persian Gulf has climbed of late and Saudi Arabia is becoming an increasingly important supplier. In addition, under an International Energy Agency agreement, the United States is obliged to share oil with the other members of the organization in the face of an oil shortage.

"Overdependence on costly and insecure foreign sources of oil could well be the major national problem of the 1990's," said Charles J. DiBona, president of the American Petroleum Institute, a trade association. "Few people comprehend that today's problems for the industry threaten the security and economic well-being of the whole nation tomorrow."

While consumption is climbing — and at an accelerating pace — it is the sharply falling level of American production that most distresses policy makers, industry officials and strategic analysts.

9% Output Plunge in 1986

After rising slightly for four years in response to higher prices, output plummeted by a stunning 833,000 barrels a day, or about 9 percent, between February and December 1986, according to Energy Department data. This decline, to 8.35 million barrels a day, brought the nation's production rate down to the lowest levels since 1977, when import dependence reached its peak of 48 percent. Imports of crude oil and refined products currently account for about 38 percent of American consumption, up from 31 percent a year ago. At the time of the Arab embargo, the level was 35 percent.

'Once you've seen $10 oil, you're scared.'

"In less than one year, manipulation of crude oil prices by the dominant Arab OPEC producing countries has offset all of the production gains realized between 1982 and 1985," said Raymond H. Hefner, chairman of the Independent Petroleum Association of America, a trade group representing thousands of medium-size and small operators that drill most of the country's new oil and gas wells.

This year, according to various projections, production will fall an additional 300,000 to 500,000 barrels, to about 17 percent below the peak production of 9.6 million barrels a day reached in 1970.

Most analysts believe that $18 oil is not enough even to arrest this drop, much less reverse it. "I don't think it gets the job done," [redacted] to assure the activity we need in this country."

Morever, he and other analysts maintain, the fact that oil collapsed to below $10 a barrel in recent memory makes oilmen and their bankers unwilling to assume that the current price will hold. There are signs this week of cheating on OPEC quotas, and a major test will occur when the winter heating season ends in the next several weeks.

"The thing in the back of everybody's mind is that the $18 price is attached to a high degree of risk," said Herbert W. Krupp, senior energy economist for the Bankers Trust Company. "Once you've seen $10 oil, you're scared."

Theodore R. Eck, chief economist for the Amoco Corporation, estimated that it would take an oil price "in the mid-$20's" before there was a significant rise in the exploration activity required to find new oil for the 1990's. In the current situation, moreover, the industry is losing — or failing to attract — vital talent. "I'm really afraid about the 'critical mass,'" he said.

Another reason for concern, according to the chairman of the Chevron Corporation, George M. Keller, is that, unlike the situation in the 1970's, there are no longer any major oil discoveries, such as at Alaska's Prudhoe Bay and in the North Sea, that await development.

Drilling in Proven Areas

And while the cost of drilling has fallen, too, the inclination is to drill in proven areas rather than to explore offshore and other frontiers where there is the best chance of finding sizable quantities.

Despite the dim prospects for maintaining even current levels of self-sufficiency in oil, the Reagan Administration believes there is relatively little the Government can, or should, do about it.

Secretary Hodel and many others believe, in fact, that the Government was mainly responsible for the oil problems of the 1970's because of its controls on prices and its counterproductive efforts to allocate diminished supplies. "We caused the shortages," Mr. Hodel maintains.

A major review ordered by President Reagan of energy dependency and national security — now due to be unveiled next month — is expected to lay out the impact and costs of possible Government interventions, such as imposing an import fee on foreign oil. But Secretary Hodel said the report would make no recommendations for fear this would reduce the prospects for serious debate of a high-stakes problem with no easy solution.

France Payments Data

PARIS, Feb. 16 (Reuters) — France's current account balance of payments recorded a surplus of 26.8 billion franc, or about $4.3 billion, in 1986, after a 1.5 billion franc deficit in 1985, the Finance Ministry said. The figure was revised up from the provisional 25.4 billion franc surplus for the year, announced earlier this month. The Ministry said December payments showed a provisional seasonally adjusted surplus of 4.8 billion francs, about $792.1 million, against a November surplus of 800 million francs, about $132 million, revised from an originally announced 300 million franc November deficit.

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THE ATLANTA CONSTITUTION NOV 20 1986

Tariff on imported oil a good hedge

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Another voice urging the imposition of a tariff on imported oil: Harvard University's Energy and Environmental Policy Center.

A study conducted by researchers for the center concludes that a $10-a-barrel fee should be charged immediately, as a surefire way to keep U.S. consumption down and thus protect the nation from the market and price manipulations of foreign producers.

Do we really need a price shock to remind us of the last oil crunch? Apparently. Imports are at their highest level since 1981. Not coincidentally, Saudi Arabia is working to push up the prices charged by members of the Organization of Petroleum Exporting Countries.

The Reagan administration has rejected the oil tariff as a violation of free-market principles. Free-market principles are important, but the issue here is foreign policy — and there is no free market, anyway. OPEC means to reassert its cartel's sovereignty, if the consuming nations will just consume their way back into vulnerability.

The question is not whether Americans will pay higher prices, but when and to whom. We can pay ourselves now (the import fee could be used to cut the federal budget deficit, for example) or we can pay OPEC later. The tariff would let the nation keep its own wealth. Better us than them.

NOV 23 1986

TVA nuclear manager's future uncertain

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CHATTANOOGA, Tenn. — A weekend meeting between the Tennessee Valley Authority and its on-leave nuclear power manager was scuttled because of problems in working out final details of a new contract, a TVA director said Saturday.

Steven A. White took a leave of absence last month to work out conflict-of-interest concerns raised by the U.S. Office of Government Ethics about his personal services pact.

The New York Times 2-1-85

Make OPEC Pay Our Debt A28

The world is awash in oil. With or without permission from the OPEC ministers meeting in Geneva, prices are tumbling.

It couldn't happen to a nicer bunch. Twice in a decade the oil exporters have exploited political crises in the Mideast with shocking increases in oil prices, triggering recessions that cost the world a trillion dollars in lost production. Now economic reality has intervened. At the official cartel price of $29 a barrel, supply far exceeds demand. And Saudi Arabia, which had single-handedly kept prices up by limiting exports, seems to have lost control.

But as nice as it is to see monopolists in trouble, crowing about OPEC's problems distracts attention from the golden opportunity offered by falling oil prices. Congress could insure that OPEC remains on the run, and also raise revenues with little pain by quickly imposing a big tax on imported oil.

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Two years ago, gasoline prices hovered at about $1.25 a gallon. Now gas is available for less than a dollar. If bearish industry analysts are correct and the world supply of crude oil keeps increasing, prices to consumers, adjusted for inflation, will soon fall to the level of the mid-1960's!

Why not sit back and enjoy it? First, because the oil glut won't last unless steps are taken to prolong it. Oil will be plentiful for several years, but the long-term outlook remains bleak. It is a depleting resource and there is still no practical substitute for it as transportation fuel. Moreover, most remaining reserves of oil that can be exploited at low cost are in politically unstable countries. Thus if demand keeps inching up toward the limits of potential production, a repeat of the 1974 or 1979 oil shocks becomes ever more likely.

There's another reason not to sit on our glut. A program to contain the demand for oil could yield a timely bonus: tax revenue. America badly needs to reduce its budget deficit, $200 billion and growing. A duty of, say, $10 a barrel on imports would yield about $30 billion directly and generate $25 billion more in higher income and windfall taxes on domestic oil. Best of all, much of the revenue would come from OPEC's pockets; conservation would reduce the world price for oil and diminish the incentive for Saudi Arabia to limit output.

Conventional wisdom says Americans won't stand for a tax at the pump. But compare the pain of such a tax with the pain of Draconian spending cuts — or of higher income taxes. A $10-a-barrel import tax would raise a lot of revenue, put OPEC to rout and still leave gasoline prices lower than they were in 1982. Never has there been a better moment to strike a blow for energy independence.

The New York Times 12-24-85

In the Name of Sanity, Tax Oil

AK America, running a $200 billion deficit for the fourth consecutive year, desperately needs to reorder its finances. Congress knows that and so does the President: They've just committed themselves by law to cut the deficit $55 billion next year and eliminate it entirely by 1991. Now the opportunity to take a long stride toward that goal is enhanced by the collapse of OPEC, the oil cartel. The way to do it is to tax imported oil.

Doing so in this time of declining prices would raise huge sums for the Treasury without triggering inflation or causing hardship to consumers. Hardly anyone would feel the pinch. Gasoline and heating oil prices now reflect an average cost of about $28 a barrel of crude.

If the collapse of OPEC cuts the price to $20, as is now anticipated, an $8 fee on each imported barrel would have the effect of paying ourselves what we have been paying to foreign oil producers. The Treasury would be enriched by $30 billion — $15 billion directly from the import tax or "fee" and another $15 billion in income and windfall taxes on domestic oil.

An import fee offers additional benefits. Most taxes, even if necessary for revenue, are wasteful because they drive a wedge between real costs and prices, discouraging effort and reducing demand. But an oil import fee would actually improve efficiency, forcing consumers to absorb the hidden costs of dependence on unstable foreign supplies.

Those hidden costs can be enormous. The first oil shock in 1973-74 sent the world into a recession that reduced output by a *trillion* dollars. Another shock might be easier to absorb but it would still be costly. At the least, oil consumers should pay the true cost of the product, which includes the billions spent on military preparations to defend foreign oil fields and shipping lanes.

A further benefit is that consumers alone would not pay the entire $8 import fee; a portion would be paid by foreign oil producers. The higher the price, the lower the demand for oil and gasoline. And the lower the demand, the lower the world price for crude. Some of the income of foreign oil exporters would thus be transferred to importers; Senator Gary Hart estimates that about one-third of an import fee would, in effect, be rebated to consumers.

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Irresponsibly, Americans have refused through all the wrenching years of high oil prices to use an oil tax to retain some revenue for themselves. Politicians fear the public would revile any plan to tax oil at home rather than enrich Arabs abroad. But in a time of falling prices, there's every reason to believe that oil-producing states like Texas would support an import fee. The fee, after all, would increase demand for domestic oil, creating jobs and revenues.

Yes, President Reagan so opposes any new taxes that he would veto even this sensible one. But, as will soon be clear, Federal spending cuts alone will not suffice to reduce the deficit on the schedule required by law. Even Mr. Reagan may prefer some taxes to gutting his military buildup. And he would not be wrong in contending that an oil import fee is less a tax than a charge on the use of a valuable public resource.

The President favors user charges on everything from national parks to Coast Guard rescues. Why, then, reject charges for oil imports that create military obligations and threaten our security?

1-23-86 BOSTON GLOBE

Taxing oil now

The sound of falling oil prices all over the world ought to wake up legislators on Beacon Hill and in Washington. They can help solve several pressing problems, relatively painlessly, by increasing state and federal gasoline taxes and imposing a tariff on oil imports.

Gasoline taxes, both state and federal, lag well behind increases justified by inflation. The Massachusetts tax, at 11 cents a gallon, is less than twice its 6.5 cent level in 1967, even though prices have more than tripled in the interval. A tax of 20 cents a gallon is justified by inflation alone, and would raise about $200 million annually to help pay for the state's enormous backlog of road and transportation projects.

Similarly, the federal tax at nine cents a gallon falls well short of keeping pace with inflation. Congress established a four-cent level in 1957 and did not raise it until 1982.

An oil-import fee of, say, $10 a barrel would raise about $16 billion at current import levels of about 1.6 billion barrels a year. With the current spot market for crude as low as $20 a barrel, such a fee would still leave prices below the 1981 peaks of around $34. Furthermore, they would stimulate domestic exploration and development efforts that now threaten to flag in the face of falling prices.

In normal circumstances, increases in energy taxes might be shunned because they might weigh more heavily on lower-income consumers. These are not normal circumstances. Massachusetts has unwisely dismantled a portion of its income tax on the eve of declining federal subsidies and rising local needs. The Reagan administration has led an even more severe assault on the federal income tax and continues to tolerate large deficits with little prospect of increasing revenues.

Each of these problems, only partially masked by the economic rebound of the past two years, demands that every available opportunity be seized to expand sources of revenue. The oil-price fall presents a unique chance for one such expansion.

THE WALL STREET JOURNAL 1-18-85

If Oil Price Dives, Leap In With Fee

P22

By S. Fred Singer

What might have seemed sheer speculation in these columns during the height of the "oil crisis" in 1980 may be coming to pass. The Saudi oil minister, Sheik Ahmed Zaki Yamani, has now warned publicly of a possible "price war," which could drive oil prices down toward pre-1974 levels. How low could that price become; how long would it remain at the bottom; and how and why would a price war happen? How will it affect the U.S. economy, the ongoing conservation effort and U.S. energy investments? What, if anything, should the government do during an oil producers' price war?

The possibility of a price war derives from the continuing oil glut, a feature of the world oil market since about 1981. The glut, in turn, is caused by the efforts of the Organization of Petroleum Exporting Countries to maintain the world oil price at the unrealistically high level of $29 a barrel. OPEC hopes to do this by acting as a cartel, i.e., by mutually agreeing to limit production to make oil scarce. But the scheme is not likely to work while excess capacity almost equals OPEC's present output. It is in the interest of each cartel member to cheat by selling additional oil "under the table" to increase its share of the market and increase badly needed revenues. As such selling proliferates and cartel discipline breaks down, the price must fall.

Plan Isn't Working

So far, the brunt of the production cutback has been assumed by Saudi Arabia; starting in 1981 it reduced production from over 10 million barrels per day (mbd) to nearly three mbd, in a futile and mistaken effort to defend the then price level of $34. It can be demonstrated by calculation that the optimum price level for Saudi Arabia, i.e., the one that leads to the highest long-term profit stream, is about $20 – well below the current price. As the holder of the largest oil reserves, the Saudis should nudge the price down to this level to protect their future market.

For internal political reasons, the Saudis avoid lowering the nominal price but instead let it erode by inflation; unfortunately for them, this plan is not working, since the dollar has become stronger and inflation weaker. They also have a severe external political problem: their OPEC fellows, most of whom will soon be running out of oil, would much rather keep up the price a little longer by having Saudi Arabia reduce production further. And some of them, like Iraq and Iran, are militarily strong and quite close by.

With these conflicting goals within OPEC the situation could become unstable. Expecting further price decreases, producers would sell as much of their oil as possible at the current higher price, and holders of stockpiles would dump them on the market. But these extra supplies would bring down the price quickly and thus produce a self-fulfilling prophecy.

The driving force is the desire for profits. To give rough numbers: Holders of some 500-million-barrel inventories (for example, many oil companies) would make $5 billion if they could sell quickly and buy back at $10 less per barrel. This collapse scenario is the mirror image of the 1979 events when expectations of oil shortages, fostered largely by pronouncements of the Carter White House, led to panic buying and hoarding, and to a rapidly rising price.

A price collapse either can be kicked off spontaneously, going well below $20 as sellers flood the market – or, as the Saudis have threatened to do, it can be set off deliberately. The Saudis' purpose is to scare OPEC members and get them to stick to agreed-to production quotas or else be undersold. The threat also is designed to keep non-OPEC producers (principally Britain, Norway, Mexico and the U.S.S.R.) from lowering contract prices. Yet another price war trigger could be the sudden appearance of additional supplies – for example, Iraqi oil that has been held off the market by the Iraq-Iran conflict.

> *OPEC, especially Saudi Arabia, has enough unused production capacity of low-cost oil to drive the price down to $10 to $12 a barrel, at least for several weeks.*

The price collapse may take the following form: OPEC, especially Saudi Arabia, has enough unused production capacity of low-cost oil to drive the price down to $10 to $12 a barrel, at least for several weeks. One arrives at these numbers by estimating how much oil is available at each production cost level, i.e., by estimating a world supply curve. (The supply curve incorporates a hotelling factor that accounts for the opportunity to invest revenues now vs. selling the oil at a future higher price.) The price is then set by its intersection with a world demand curve in a truly competitive market where all low-cost oil wells produce to maximum capacity. The duration of such a collapse should be short, perhaps commensurate with a typical oil shipping time of two to four weeks. Once oil producers found themselves caught up in a price war, they would resolve to observe strictly their production quotas and the price would rise to near its present level. Of course, if the producers act quickly, the price might not drop all the way to the theoretical $10 level.

The effects of even a brief price collapse could be far reaching. It would temporarily put out of business oil wells with a marginal production cost greater than about $10 a barrel; this includes most U.S., including Alaskan, oil and also much OPEC oil. Producers of competitive fuels – coal and gas, usually sold under long-term contracts – would experience some difficult moments. Consumers probably would not benefit from the lower world oil price, because competition might not have enough time to work its way through the system. But even a short-lived episode could hurt the continuing conservation effort and certainly give the wrong long-range signals. Consumers should be aware that the price of oil will rise eventually, and certainly be higher than the present price after the year 2000 – as low-cost oil gradually becomes depleted, even in Arabia.

Under these circumstances it makes sense for the U.S. (and other oil-importing nations) to take appropriate countermeasures. The preferred action is a variable import fee (VIF) to keep the price of imported oil at some fixed level during the price-collapse episode. Such a fee, applied on a temporary basis, would also stabilize domestic prices for all fuels and keep the situation unchanged for domestic producers and consumers – as if the price collapse had not occurred.

Some care has to be taken in applying a VIF, so as not to discourage competition among oil buyers to get the lowest price on the world market. Such procedures are not too difficult to work out. For example, the VIF could be set periodically as the difference between a fixed target price (set by Congress, at say, $25) and a world-averaged spot market price. Oil importers would profit if they could purchase at less than the average price.

It is quite appropriate to think of the VIF as a countervailing tariff applied against the dumping of a commodity – a well accepted legal procedure. The overall effect of the VIF would be to transfer profits from foreign oil producers and oil brokers to the U.S. Treasury, without raising consumer prices. It would also protect the investments of thousands of energy producers (some 15,000 oil producers in the U.S.) and Treasury revenues derived from the windfall tax (which would cease if the domestic price drops below about $18).

CONTINUED 4

THE WALL STREET JOURNAL

CONTINUED

1-18-85

Most Difficult Problem

It is appropriate for all industrialized nations (most of whom are represented in the International Energy Agency) to take coordinated action on individual national import fees to avoid competition in exported goods based on energy price differentials. Further, such action by the IEA would ensure that the world consumption of oil not increase, even if the price collapses. Of course, oil companies around the world would take advantage of bargain spot prices to replenish inventories, and take a profit later when oil prices recover. But their profit comes out of the pocket of oil producers, not consumers.

By far the most difficult problem will be to convince consumers that the VIF is not a tariff, is strictly temporary, and will lead to lower prices of world oil in the medium and long run by constraining oil demand through conservation. It is not difficult to see that if the Treasury refunds VIF revenues via a tax reduction, the average oil consumer qua taxpayer will also derive short term benefits from an oil producers' price war.

Mr. Singer is a visiting professor at George Mason University in Virginia. His latest book is "Free Market Energy," published last year by Universe Books.

THE SUN

FEB 18 1987

10A The Oil Crunch Next Time

Americans are driving blind once again, blind toward another oil crunch already in the making. Maybe Jimmy Carter would have taken action to encourage domestic production and curtail a dangerous over-dependency on Persian Gulf oil. But voters don't want hair-shirt presidents; they want feel-good presidents. And so Ronald Reagan can be counted on to ride out his term blithely ignoring danger signals and leaving potential crises to his successors.

What happened in 1986 is ominous indeed. As oil prices plunged on half, domestic exploration hit a record low at mid-year and imports of crude oil rose 32.2 percent. By year's end, the American dependency on foreign supplies reached 38 percent and was heading higher. By 1990, the United States may be getting more than half its oil supplies from abroad for the first time in history.

Government and industry officials both concede these adverse trends have accelerated much faster than expected. The American Petroleum Institute, which had opposed import fees or higher gasoline taxes, suddenly turned neutral at its annual meeting in November. Its president, George M. Keller of Chevron, called for a national floor price. Interior Secretary Donald P. Hodel predicted last week that "People will be sitting in gas lines anytime within the next two or five years."

In a new year's message, API president Charles J. DiBona lamented that "policymakers appear not to appreciate the full magnitude of the problem" and urged Mr. Reagan to face up to it in his State of the Union message. But as it happened, the president said nothing. And despite Mr. Hodel's rhetoric or the threat to national security, there is little evidence the administration plans any dramatic steps. "It's doubtful the numbers I've seen so far will justify an oil import fee," Energy Secretary John S. Herrington said a couple of months ago.

Although the disparate, often antagonistic components of the oil industry seem to be drawing together in the face of new adversity, a coherent response to the oil crunch next time is thwarted by cross-currents of issues. Whether to drill off the coast of California or in the northern reaches of Alaska raises fierce environmental controversy. While an oil import fee would be tough on East Coast consumers, a higher gasoline tax would be harder on those living in the wide open spaces of the West. Any steps taken to save the domestic oil industry would reduce the trade deficit but boost the inflation rate.

As long ago as July 9, 1985, this newspaper was urging a floating oil fee system to keep domestic prices on an even keel. Had such a system been in place, thousands of U.S. wells would still be in operation millions of dollars would not have have been spent overseas and our energy future would have been far more secure. Must there be another painful oil shortage before the nation acts?

THE ATLANTA CONSTITUTION

MAR 10 1987

An oil import fee, or oil blackmail 16A

American motorists are whistling a reasonably happy tune at the gas pump these days, but the storm signs continue darkening the horizon.

The latest gray cloud: Oil industry experts say the United States will be importing more than half its oil, perhaps by the early 1990s and certainly no later than 2000. Witnesses this week said in Senate hearings that the United States is becoming increasingly dependent on oil from the Middle East.

Scott Jones, vice president of Chase Econometrics Inc., John Lichtblau, president of the Petroleum Industry Research Foundation and Daniel Dreyfus, vice president of the Gas Research Institute, all see different due dates when imported oil is a majority of the U.S. market, but none places the crossover point at later than the year 2000.

Sen. Bennett Johnston (D-La.), chairman of the Senate Energy and Natural Resources Committee, puts the matter plainly: "Every analyst I have heard from paints a depressing picture of the prospects for domestic oil production. We can expect increasing levels of oil import dependence, and those imports will inevitably come from the Middle East."

Domestic production fell by more than 700,000 barrels per day last year, primarily because the lowered prices created by international production surpluses make much U.S. oil too expensive to lift.

Bennett sensibly proposes an oil import fee, which by raising prices would encourage conservation, make domestic production economically attractive again and discourage imports.

One way or the other, Americans will have to pay more for oil. We can pay it directly to overseas producers, or we can pay indirectly through an import fee that would keep the money at home, help domestic producers and keep U.S. foreign policy free of attempted blackmail by domineering foreign producers. Even with the side-effect drawbacks that a fee would produce in the U.S. economy, it is the lesser evil.

RADIO TV REPORTS, INC.

4701 WILLARD AVENUE, CHEVY CHASE, MARYLAND 20815 (301) 656-4068

FOR DEPARTMENT OF ENERGY

PROGRAM The Nightly Business Report STATION WETA-TV
PBS Network

DATE February 27, 1987 6:50 P.M. CITY Washington, D.C.

SUBJECT Change in Relationship with OPEC Unlikely

DEAN SHEPHERD: In tonight's commentary, Cornell University Professor and former presidential adviser Alfred Kahn doesn't hold much hope for a change in our relationship with OPEC.

ALFRED KAHN: Evrey day that I read the newspapers dutifully reporting the latest efforts of the OPEC countries to cut their production of oil and raise the price, it reminds me of the Marx Brothers movie in which they give Chico the job of guarding the wedding presents. After the ceremony, Groucho comes in, finds the presents gone, and asks Chico, "Didn't I tell you to watch the presents?"

"Sure," he said. "I watch 'em. Some fellow put a ladder against the window and climb in. I watch him. He put the presents in a bag, big bag, climbed down the ladder and get in a car. I watch him. He drive away. I don't watch him no more."

That's our way with OPEC. In just the last couple of months they've gotten the price from below $10 to almost $20 a barrel. Since we're importing about six million barrels a day, that means these fellows with their ladders are relieving us of about $60 million a day. That's over 20 billion a year. But don't worry, we watch 'em.

Our inability to get our act together on our exposure to OPEC exploitation is very much like our inability to solve the federal budget. Everybody recognizes the need. President Nixon called for a program to achieve energy independence, an unrealistic goal, but his diagnosis was right. President Carter called the struggle "the moral equivalent of war." We pointed out gleefully that the acronym of his slogan was MEOW.

A new study out of Harvard's Center for Environmental and Energy Studies points out, as I did on this program years ago, that the market price of oil falls short by at least $10 a barrel of reflecting the true marginal costs to all of us of our mounting imports, and the study calls for a tariff of that order of magnitude. Others call for a gasoline tax. Either would, by cutting down on our imports, put some of the burden back on the OPEC countries. But there's no way of doing that, any more than of cutting the federal budget, without imposing sacrifices on some people.

So, in the end, all we do is watch 'em, while they rob us blind.

The New York Times

2-15-85

Letters

The Need for a Permanent Oil-Import Tariff

To the Editor: A24

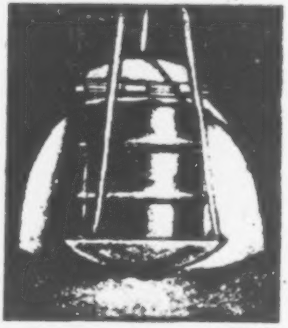
An oil-import tariff (editorial, Feb. 1) would lower demand for OPEC oil and nudge world prices farther down the slippery slope. Lower world oil prices would expand investment in finding and developing oil in the OPEC countries and Mexico, the best regions in the world for that.

High cartel prices have restricted demand. The cartel nations do little development and exploration. They have more than they can sell. Lower prices and lower exporter nations' revenues would reverse the process.

The Iran-Iraq war would sputter out for lack of funds, and both countries would rush to restore and extend their productive capacity. Saudi Arabia would dust off the 1973 plans for producing 20 million barrels daily, and Kuwait would sign up reservoir engineers to get back up to 3 million to 5 million barrels. They would hate it, but it would be the only way to minimize the loss of revenues.

For a decade or more, proved reserves, and the even larger amount of probable reserves in old fields, are ample to support rising demand at a price that is a minor fraction of the current price. What happens to oil after that, you think you know: "The long term outlook remains bleak. It is a depleting resource." But every mineral is a depleting resource, yet mineral prices have mostly dropped in the long run, not risen. Increasing knowledge has overcome scarcity. Oil prices were declining until 1970, when the cartel took over.

In the 1976 buyout of Aramco, the partners were promised 6 cents per barrel of new oil they found — at today's levels, about 10 cents. That is the best estimate of their finding cost. Kuwait recently drilled for natural gas for local electric-power generation. It found a new oil field, estimated at 27 billion barrels and so cheap to develop that it will replace some current production. That is what they find without trying. A little effort would find a lot more.



Daniel Adel

Once they are down to competitive levels, oil prices may some day increase. Nobody should rule that out. But there is an excellent sensing mechanism to read and use information on future supply.

A competitive market in any product is also a free market in ideas. An investor puts his money where his mind is. In such a market, mineral prices reflect the consensus on future scarcity, and they govern exploration-development investment. The knowledge and reserves created by that investment correct mistakes, and feed back into expectations and price.

Ten years ago, uranium prices rocketed. But there was no cartel. Hence, as my colleague Thomas Neff has shown, there was investment in the most promising areas, vast new deposits were found, and the inflation-adjusted price is today at its lowest.

The oil market has no such corrective machinery. The current price discounts not the future but the hereafter.

We cannot afford to let a lower world price of oil wipe out much or most of the domestic oil industry. The risk is too great, of a rebuilt cartel and the insecurity of the 1970's. Hence the need for a permanent oil-import tariff.

The financial problems of Mexico and Venezuela are our problem, too. Their plight would be mitigated by lower interest rates and expanded production. The gains from lower oil prices would be many times the cost of any additional help to them. As for the Persian Gulf and other producer nations, we need not gloat over their reverses ("It couldn't happen to a nicer bunch."). But what's bad for them is good for us, and for the rest of the world.

M. A. ADELMAN
Professor of Economics
Massachusetts Institute of Technology
Cambridge, Mass., Feb. 4, 1985

NYT

MONDAY, APRIL 28, 1986

Letters

An Import Tax Would Provide Relief for Oil States

To the Editor:

Uwe E. Reinhardt's April 13 letter ("Cheap Oil, Dear Oil and the National Security") makes many sound points and offers a deserved criticism of the Vice President, but I would like to suggest some improvements to Professor Reinhardt's recommendations for action.

Like most, if not all, fellow economists, I share his two basic propositions, that cheap oil is highly beneficial to our country — the cheaper the better — but that it seriously hurts a small segment of the country: the oil producing states. I also share his third proposition (though here I may part company with some of my colleagues) that that small sector deserves some relief.

But instead of his approach of providing the desired relief through a program of "massive search for new oil reserves on our soil," financed by putting "an excise tax on all forms of energy consumption," I would suggest relying on a mechanism that has already been suggested, namely to levy an appropriate excise tax on imported oil.

Such a tax would have the effect of raising the domestic price of crude oil above the world price by the extent of the tax, thus raising also the price of domestically produced oil. This would provide the desired relief directly to the oil producers, who are the current losers and also, somewhat indirectly, to the oil-exploring industry, which is anyway far less important.

One particular reason this aproach is equitable, besides being economically sound, is that when the price of oil was sky high, we took away some of the potential profits of the producers by imposing a so-called windfall-profits tax. We thereby, in effect, nationalized and shared part of the industry's "excess" profits. It seems only fair that we should today symmetrically nationalize and share some of its windfall losses. Under an excise tax on imported oil, this would be done at no cost to the Treasury.

Bob Gale

Another differential effect of this proposal, compared with Professor Reinhardt's, is that some of the gain to oil producers would spread, through higher prices, to other producers of energy (gas, coal). I would regard this an advantage because these industries are also suffering windfall losses as a result of the crash in the oil price.

My proposal, like Professor Reinhardt's, implies forgoing some of the advantage of cheap oil to domestic users. But in my version this loss is offset by the additional oil-tax revenue accruing to the Treasury. This is an important advantage at a time when we are making little progress in reducing the budget deficit, the country's No. 1 economic priority.

The suggested approach would be further refined by setting the rate of the import tax on a sliding scale, varying inversely with the world price. This would serve the desirable purpose of stabilizing the price paid by domestic users and received by domestic producers at some chosen level, at least as long as the world price does not exceed that level. Even if it did exceed that price, stability of the producers' effective price could be achieved by reinstituting the "windfall-profits" tax. This stability would have great advantages, especially at a time like the present, when the price of oil may well go through large, economically undesirable gyrations.

FRANCO MODIGLIANI

Cambridge, Mass., April 14, 1986

The writer, Institute Professor at the Massachusetts Institute of Technology, received the 1985 Nobel Memorial Prize in Economic Science.

The New York Times 3-30-86

A Peril To Security

P14 **By Fred L. Hartley**

LOS ANGELES — The collapse of the Geneva talks involving members of the Organization of Petroleum Exporting Countries and oil-producing countries that are not OPEC members leaves the world with no mechanism to restore the stability of oil prices. And as long as Saudi Arabia sticks to its program of increased production, prices will continue to plunge. This problem not only harms the United States' petroleum industry but also threatens national security. The answer is an oil import fee.

Americans who hope for a price war do not appreciate what it would cost the nation. Cheap oil threatens our security and economic vitality by crippling the petroleum industry. The Government should immediately enact a tax on all imported crude oil and petroleum products.

Since 1979, the world's demand for crude has declined from 54 million barrels per day to about 46 million, and OPEC's market share has dropped from 31 million a day to 16 million. In December, Saudi Arabia acted to regain its dominant market position: It doubled production and initiated a price war that cut world oil prices by more than half. The Saudis hold the upper hand. They have one-fourth of the world's known oil reserves, virtually all of the world's readily available oil and the world's lowest production costs. They can increase production to 10 million barrels per day and drive prices below $10 per barrel, a price that would stimulate demand even as it shut down American production and virtually ended this country's search for new energy resources.

The tactic is working and is devastating America's strategic petroleum position. Drilling is down more than one-third since December. Petroleum companies are slashing capital budgets and canceling exploration and production programs. Producers are closing higher-cost wells. At this rate, domestic production will drop this year by at least one million barrels per day. Producers, drillers and suppliers are struggling to avoid bankruptcy.

While low prices spur demand, domestic production will drop sharply, frontier exploration will halt and imports will more than double in the next four years. Those increased imports will come from OPEC — and all control over world oil prices will have reverted to the cartel.

This is not the free market at work; it is predatory pricing on an unprecedented scale. Low-priced oil carries high costs — lost tax revenues, increased unemployment, weakened banks and a ruined petroleum industry. The prospect of oil shortages and skyrocketing prices threatens our national security, economic health and ability to control our foreign policy.

To avoid a serious new energy crisis, Washington must impose an import fee — with no exceptions — on all imported crude oil, petroleum products and petroleum-derived chemicals. It should be levied without special deals or privileges. If arrangements are needed to protect relationships with Canada and Mexico, they should be worked out on a case-by-case basis.

The fee would create a floor price of, say, $27 per barrel, which should be high enough to support continued American exploration and development but low enough to provide gasoline and other products at prices comparable to what consumers paid three months ago. The fee, paid by the importer and passed to the consumer, would amount to the difference between the import price and floor price. If the average import price were $15 per barrel, the fee would be $12; if the import price were $27, the fee would disappear. The primary purpose of the fee would not be to raise the price of imported oil but to support the price of American crude at a level that enabled our industry to remain fully productive. An import fee would thus protect the industry while the oil exporters' predatory price war went on.

Some consumers and policy makers oppose an oil import fee, believing it would interfere with the free market and unfairly penalize certain sectors of the economy. But oil is a strategic commodity necessary to national security. Without it, we cannot defend ourselves. And without a strong domestic oil industry, we will again become dangerously dependent on foreign — OPEC — oil. Such dependence can generate damaging, inflationary prices for all United States industries and consumers, force a severe drain in the balance of payments and make our nation ever more vulnerable to political and social upheavals abroad.

America cannot afford so-called cheap oil. □

Fred L. Hartley is chairman and chief executive officer of the Unocal Corporation, an oil exploration, production and refining company.

JUL - -

THE CHRISTIAN SCIENCE MONITOR

Import fee urged to save US oil industry

By David R. Francis
Staff writer of The Christian Science Monitor

P.19

Thousands of American bankers and oil industry executives would be delighted if the Organization of Petroleum Exporting Countries agreed on national quotas during its current meeting in Geneva.

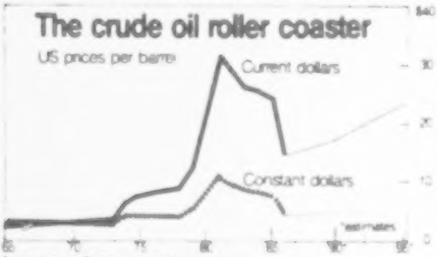
The resulting limit on supply would boost the price of crude, thereby saving the banks' oil loans from default and returning prosperity to the petroleum business.

Given the deep divisions within OPEC, however, many observers consider such a deal unlikely.

So Sam Nakagama, a Wall Street economist, thinks Uncle Sam should ride to the rescue. Indeed, he suspects that "the powerful pressure of events — economic, political, and geopolitical — will force the White House to adopt a variable oil-import fee by late summer."

GLOBAL MARKETS

That fee, he suggests, should establish a floor of $18 a barrel and grant Mexico and Canada tax-free quotas.



Source: American Petroleum Institute, Merrill Lynch

Otherwise, Mr. Nakagama predicts, the price of crude could plunge to $5 a barrel, threatening to destabilize North America. Such a low price, he says, would:

1. Cause more serious damage to the United States banking system, especially in the Southwest.

2. Probably prompt a collapse of the Mexican debt refinancing package.

3. Lead to the economic and political destabilization of Mexico, resulting in disorders on the southern US border.

4. Destroy the domestic oil industry and deepen economic problems in the Southwest.

5. Increase the probability of the Republicans losing control of the Senate in November. The flow of Republican Party funds from Texas could shrink, he adds.

6. Produce a downward spiral of falling incomes and imports among oil-producing countries, thereby leading to further cutbacks in world trade and US exports.

7. Collapse confidence in the dollar in the face of financial and economic disorders.

8. Result in soaring oil prices by 1990 as the US and other countries get hooked on cheap oil again.

At the $5-a-barrel price, says Nakagama, "in five years OPEC will be back in the driver's seat."

That's a phrase which echoes. Two economists with Merrill Lynch Economics Inc., Jack Wolfman and John Hill, also talk of OPEC's being "once again back in the driver's seat" by 1990, with oil prices climbing to at least $20 a barrel.

All these analysts figure the current decline in oil prices will clobber enough non-OPEC oil production, at the same time American consumption of oil is once more rising, that the US will become significantly dependent on Mideast and other OPEC oil sources.

"With the OPEC countries now engaged in a price war, it's more and more obvious that the United States cannot bemuse itself with the idea we are watching free markets at work," states Nakagama. "In fact, an avowed aim of OPEC is to drive marginal, high-cost producers out of the market. And that means especially the low-volume producers of the United States. In effect, the primary aim of OPEC now is the destruction of the US oil industry."

Nakagama finds it "astounding that the Reagan administration should simply sit there and let this happen. Indeed, this behavior is so amazing and lacking in common sense that we think it must come to an end before the arrival of autumn."

The plunge in oil prices has already had an important impact on production.

US crude oil production in May was down 3.6 percent (327,000 barrels a day — b.p.d.) compared with the same month a year ago as uneconomic "stripper" wells (10 b.p.d. or less) were shut down. In 1985 450,000 stripper wells accounted for 15 percent, or 1.35 million b.p.d. of US output. The average cost of production of these wells, including taxes and other expenses, is said to be $12 to $16 a barrel. Nowadays, some grades of crude are going for $8 a barrel.

Robert O. Anderson, chairman of Atlantic Richfield Company, estimates US oil output will drop by at least 1 million b.p.d. next year as marginal wells are shut in.

CONTINUED

THE CHRISTIAN SCIENCE MONITOR

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JUL 31 1986

In the meantime the long slide in petroleum usage has ended. In the US, which accounts for 35 percent of world oil consumption, domestic demand this year through June 23 is up 3.1 percent from the same period in 1985.

OPEC is producing around 20 million b.p.d., well above the 17.9 million ceiling a majority of its members agreed on in theory at its last meeting, in June. That ceiling would aim at a price range of between $17 and $19 a barrel.

If OPEC can't set such a goal by establishing country quotas at this Geneva meeting, it will have a strong incentive to do so should the US impose oil-import fees, Nakagama says. The oil-producing countries would want to recapture the US fee, which would be reckoned by subtracting the world price of oil from $18.

The $18 price, Nakagama figures, would stabilize incomes, rescue the domestic oil industry, and prevent more financial troubles. As for the administration's reluctance to act because it doesn't want to interfere in a "free market," he comments: "Tell me another joke."

The New York Times AUG 19 1986

Toward Domestic Oil Prosperity

By Bernard L. Weinstein
and Harold T. Gross

A27

DALLAS — When oil prices began to plummet earlier this year, the event was met with a general euphoria by residents and politicians in energy-consuming states. Within weeks, Texas-bashing became the nation's No. 1 pastime. Newspaper and magazine articles carried headlines like "Texas Takes a Tumble" and "The Great Texas Oil Bust," and Yankee pundits had a field day writing columns titled "Let 'Em Rot in the Sun" and "Cap a Well and Starve a Texan."

Cheap oil, they predicted, would help restore international competitiveness for American industry, increase disposable income and prolong the national economic expansion. But that hoped-for scenario has not materialized, and it now seems that the costs of cheap oil may have far exceeded the benefits.

On the other hand, the recent agreement of the Organization of Petroleum Exporting Countries to restrict output and raise oil prices has unduly raised expectations of a return to a stable market. Given OPEC's track record, we should be wary of talk of a quick recovery.

Rather, as we fill up our gas tanks for $10 or less, it might be helpful to remember that the oil industry was until very recently the largest employer in the United States. More than a million people make a living in various aspects of the oil business, and although these jobs are concentrated in the Southwest, the industry is a major employer in every state.

Thus it is not surprising that the contraction of the oil industry also pulled down many other sectors of the national economy. In July, for example, the Commerce Department reported that second-quarter growth in the gross national product had slowed to a mere 1.1 percent annual rate, primarily because of weakness in energy and related sectors.

Any short-term advantages for the national economy from cheap oil must be weighed against the prospect of greater political and economic vulnerability. As we substitute "cheap" foreign oil for "expensive" domestic oil, American exploration and drilling diminish. Should an emergency arise, it would be extremely costly to boost domestic production, and it would take years. It took six years for domestic production to increase after the first OPEC shock in 1973. The cost of reopening a plugged oil well is almost as high as the cost of drilling a new one.

The U.S. can reassert its position

The domestic oil industry can only prosper if prices are stabilized at a level high enough to secure reserves and to encourage a modest level of exploration and drilling. Some might argue that the recent accord within OPEC will restore confidence and cause a new surge in oil exploration. But this is unlikely. Too many previous OPEC accords have dissolved under the temptation to violate production quotas.

Rather than delude ourselves into believing that oil prices now reflect the interplay of supply and demand in a free market, we should take advantage of OPEC's disarray to reassert our position in the marketplace. The United States is, after all, still the second-largest oil producing nation and the world's chief oil consumer. Because of that position, we can quickly and painlessly bring order to the world oil market by adopting a variable tariff on crude imports and by letting American producers export their oil.

A variable tariff, aimed at stabilizing oil prices around $18 a barrel, would halt the steep slide in domestic production and mitigate the nation's growing dependence on imports. Similarly, a repeal of the prohibition on the export of American crude oil would stimulate domestic production and allow the United States to narrow its trade imbalances with major energy-consuming nations like Japan, South Korea and Taiwan.

Fears that oil priced at $18 a barrel would harm the Frost Belt are unfounded. In fact, that region's remarkable economic rebirth began in the early 1980's, when oil prices were well above $30 a barrel. Most important, the combination of an oil import fee and entry into the crude export market would halt the decline of an industry that contributes enormously to the gross national product, and would prevent another slide toward a severe national recession. ☐

Bernard L. Weinstein is director and Harold T. Gross is assistant director of the Center for Enterprising at the Edwin L. Cox School of Business at Southern Methodist University.

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THE
OIL DAILY 3/21/86

Import Quotas Needed to Save Domestic Oil Industry

• Excerpts from a letter from Caland Petroleum Inc. President Robert L. Fuchs to President Reagan.

Dear Mr President A-12

Because of the precipitous fall in oil and gas prices in recent weeks due to increased production by foreign countries, an extremely serious crisis has settled upon the United States energy industry.

This condition, if uncorrected, will be catastrophic for domestic oil, gas and other forms of energy, both in the near future and over the long term. To date there has been no action on the part of your administration, perhaps because you are not aware of the gravity of the situation.

Petroleum is being dumped into the United States at rapidly increasing rates. Crude oil imports were up 39 percent from January 1985 to January 1986. Petroleum products imports were up 19 percent over the same period and are bypassing almost the entire United States petroleum industry.

Year-end 1985 results reflect the disaster that has occurred in exploration and production — seismic crews down 31 percent, drilling rigs down 25 percent over the prior year. Drilling rig activity has declined a further 12 percent in the first six weeks of 1986.

The accelerating damage to oil and gas people and companies is hard to believe. Fully one-half of the 40,000 professional petroleum geologists will be unemployed by mid-1986, as companies cancel exploration for new oil and gas. Most of the remaining small, and some large, oil and gas companies will disappear this year.

The U.S. oil and gas industry is being dismantled before our eyes, at a much faster rate than the dismemberment of nuclear power and oil shale in prior years. In the very near future we shall be at a dangerous dependency level, relying on unstable countries and geopolitical areas for our energy. Mr. President, you have built a strong national defense in recent years. Just what will fuel United States planes and ships in times of crisis or war? Certainly not Saudi Arabian, Indonesian or Russian oil.

I call upon you and your administration to take the lead in establishing a system of import controls that will roll back and limit to the level of January 1985 the flood of foreign oil and gas now entering the United States. First priority for imports should go to our neighbors, Canada and Mexico. In this manner, U.S. oil and gas prices will stabilize at a level that will permit some degree of continuing domestic exploration and development of reserves.

In restraining oil and gas imports, you would not be protecting an inefficient industry. The petroleum industry in the United States is the most efficient in the world in terms of the application of advanced technology. We have always led the world in finding, developing, producing and processing petroleum. In fact, most of the world's oil and gas has been found by Americans and American technology. Unfortunately, the vagaries of geology have sited the largest reserves outside this country. It is production from these giant reserves that is now being used to destroy the domestic industry.

OIL DAILY 3/21/86

Letters to the Editor

√Oil Import Fee Flies in Face of Facts

To the Editor A-12

"The deliberate dumping of oil into U.S. markets as a means of manipulating price..." is hardly free trade, according to Julian G. Martin of the Texas Independent Producers and Royalty Owners Association, in a letter to the editor of *The Oil Daily*. With the U.S. consuming over 16 million barrels per day but only producing 8.9 million b/d, where does Mr. Martin think the balance comes from?

A lesson in formal logic would be helpful in this argument for an oil import fee, in order to protect "the viability of the domestic exploration industry." The major premise is that the United States is not energy efficient, i.e., the U.S. consumes more than it produces. The minor premise is the U.S. will have to import increasing amounts of oil for its needs as its nonrenewable petroleum reserves decline.

If these two premises are true, then the conclusion is that an oil import fee would be harmful for the common good. An oil import fee flies in the face of facts: we must import oil, and a fee would hurt those we must import from. An oil import fee would unnecessarily harm all of us.

Emma Brossard
Director of Policy Analysis
Louisiana State University
Center for Energy Studies

P.S. Wonderful quote in the same issue of 2/28/86, in Bits and Pieces: "Economics is the only profession where a man can have a lifetime reputation as an expert without ever being right."

MLPS Still Valuable, Mesa's Pickens Says

To the Editor:

I read with interest your Feb. 24 article about the effect of declining energy prices on master limited partnerships. While these investment vehicles are obviously affected by price swings, your article overlooked a critical comparison.

Master limited partnerships typically sell in the market at or above underlying net asset value. The common stocks of independent producers, in contrast, sell at about 70 percent of appraised value, while the majors sell at about 50 percent of underlying value.

The majors' market price has been propped up to some extent by dividend yields during the recent oil price decline. Even so, master limited partnerships remain a far better value over the long term, high oil prices or low.

T. Boone Pickens
General Partner
Mesa Limited Partnership

The New York Times APR 13 1987

Back to Energy Independence

A19

By George P. Mitchell

THE WOODLANDS, Tex. — Last month, the Energy Department finally acknowledged that America faces national security problems because of its increasing dependence on imported oil. If Energy Secretary John S. Herrington had magical power, he might have set the price of oil at, say, $30 a barrel, up from the prevailing $18.

At that point, the domestic energy industry would have begun a serious effort to find new sources of petroleum. And 14 years later, in the year 2001, America would have brought its dependence on imports down to a tolerable level of 20 to 25 percent, compared with 38 percent now.

That's a best-case scenario, and I doubt that Mr. Herrington would use a magic wand even if he had one.

The domestic energy industry fell off the wall in 1985, and it will take a long time to put it together again. Hundreds of thousands of engineers, geologists, rig hands and others have been laid off. Some are available for rehire, but many are gone for good, and few replacements are coming along in college. Thousands of producers and service industry companies have gone into bankruptcy or closed altogether. For lack of drilling, oil reserves are being depleted. Rigs are rusting away.

Because of these losses, while Washington lumbered to the conclusion that something profoundly important was under way, the petroleum industry's infrastructure came unglued. Now, even if there were immediate large increases in oil prices, it's not conceivable that America's oil production capacity could return to mid-1985 levels in less than four years.

That's not enough. Our goal should be 75 to 80 percent energy self-sufficiency. The only way to reach that level is to exploit our vast natural gas resources. We have the potential to produce 11 trillion more cubic feet of gas each year — an increase of two-thirds over the present level. This added production would take the place of five million barrels of oil imported daily, bringing our dependence into a far less threatening range.

The price would be high — almost quadrupling annual expenditures for exploration and development and more than tripling the number of wells drilled in the United States each year. It would not be possible to reach those levels in less than 10 years. Even returning to the 1985 level, which was considered normal, would be a serious task. The alternative, if exploration remains unprofitable, is that our dependence on imports could jump to 60 to 65 percent by the mid-1990's. Such vulnerability is intolerable.

None of the choices to deal with our energy dilemma offers a comfortable way out. Secretary Herrington, Senator Phil Gramm, Republican of Texas, and others advocate new tax incentives, but their ideas would begin to be effective only after months or years — and maybe not even then for independent producers who drill 80 to 90 percent of all domestic wells

Out of the possibilities discussed in Washington and in the oil patch, only one would get things moving immediately: a variable import fee on oil, structured so that no supplier nation would be exempt. The only possible exception should be for oil used in the production of petrochemicals that are to be exported.

The Administration has been inattentive to the energy situation. Finally, however, all sides agree that the decline in our production capabilities has the potential of being an acute security risk. It's time to undertake the cure.

George P. Mitchell is chairman of Mitchell Energy and Development Corporation.

THE
OIL DAILY 3/21/86

Import Quotas Needed to Save Domestic Oil Industry

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MEMORANDUM

TO: SENATOR BENTSEN
FROM: VAN MCMURTRY
DATE: AUGUST 14, 1986

RE: LEAD STORY IN OIL DAILY

THURSDAY, AUGUST 14, 1986

Ex-Defense Chief Boosts Import Fee

By Steve Marcy

WASHINGTON — Former Defense Secretary Harold Brown Wednesday urged adoption of a variable oil import fee as a strategic necessity to prevent the collapse of domestic oil production.

Brown, President Carter's defense secretary, told a Senate Finance Committee hearing considering amendments to the Trade Expansion Act that an increase in the gasoline tax, an oil import fee or some combination of the two would be useful.

While a gasoline tax "may appear to be more equitable, if you're trying to assure production, an oil import fee makes more sense." It would also lead to only a "slight" increase in inflation, his prepared statement added.

Brown said that 3 percent economic growth, 2 percent energy growth and 1 percent growth in oil demand could by the early 1990s bring world production back into rough equivalence with demand and require that the Western Hemisphere import up to 30 percent of its supplies from the Persian Gulf.

Combat Flexibility

Brown also said the administration's decision last week to increase the Strategic Petroleum Reserve — which came in accordance with pending legislation on Capitol Hill ordering it to do so — will provide the U.S. with increased flexibility in fighting a war in which U.S. overseas supplies might be cut.

Brown testified against any trade restrictions or subsidization programs for steel or for computer chips, saying that such restrictions placed so far are partially responsible for the foreign threat to the domestic industry, especially from the Japanese.

Oklahoma congressmen favoring an oil import fee testified that anemic U.S. production, brought about at least partially by OPEC production policies, have led to rising demand and imports that are

(Continued on back page)

Former Defense Secretary Urges Import Fee Action

(Continued from page 1)

realizng OPEC's goal of reasserting its dominance in world markets.

Making the statement were Democrats James Jones, Glenn English, Wes Watkins and Dave McCurdy.

Oil imports have risen from 27 percent of U.S. consumption a year ago to 39 percent, with OPEC's share now accounting for 43 percent of total imports, the four testified.

High cost production squeezed out of the market by OPEC lifting capacities could maintain prices roughly at $15 a barrel, placing an "extra call" on OPEC production of 6 million to 7 million barrels per day worldwide.

The four testified that National Security Adviser John M. Poindexter's letter to tax conferees about the national security necessity of maintaining production incentives also "morally obligates the president to exercise his authority under Section 232 of the Trade Expansion Act of 1962 to impose an oil import fee."

The four asked the committee to join with them in urging President Reagan to adopt the fee.

"We contend that without imposition of an oil import fee," they said, "this administration is helping to build OPEC's dominance and control."

DR. HAROLD BROWN
PREPARED STATEMENT FOR
SENATE FINANCE COMMITTEE HEARING
AUGUST 13, 1986

THE OIL GLUT, NATIONAL SECURITY, AND TAXES

Mr. Chairman and Members of the Committee, I am delighted to appear before you today to share with you some thoughts about the effects of the current oil over supply and corresponding low oil price on U.S. national security. I dc not pose as an expert on its economic implications, nor on tax policy, though I have given some thought to both of those matters. But the dependence of the industralized democracies (the U.S. less than others) on oil from the Persian Gulf and the Middle East continues, in my view, to pose a long-range problem for Western security. This is so even though any prospect of an immediate threat has faded with the fall in the ratio of consumption to production capacity, and the corresponding fall in oil prices.

In the short range the effect of the glut on the economic situation has been one of reduced inflation in the industralized democracies, a soft economy in some regions of the United States, and a mixture of losses and gains to Third World nations depending upon whether they are net producers or consumers of oil. In the longer run, however, I fear that we may be setting ourselves up for a new oil shock in the early 1990s. The severe drop in oil prices has greatly reduced exploration for oil and development of known reserves in most parts of the world. In the United

States those activities have been practically shut off. It has led to the virtual termination of development and pilot plant construction for synthetic fuels. Conservation efforts have slowed down, though they have not by any means stopped.

All these are understandable as near term market decisions. But if we look ahead a few years, and make the assumption that the world economy continues to grow at even three percent a year, energy consumption at two percent a year, and oil consumption somewhat above one percent a year, then by sometime early in the 1990s demand and production capability will be in closer balance again. At that time, the U.S. could be expected to import as much as 50 percent of its oil consumption, and perhaps 30 percent or more of Western oil consumption to come from the Middle East and Persian Gulf. The economies of industralized democracies then would once more be susceptible to the political shock attendant on a cut-off, either from war in the Middle East or from a revival of a cartel capability used for political or economic extortion by some of the oil-producing countries. This vulnerability could be less if the West experiences a recession before the end of the decade, and it could be greater if one believes the OMB forecasts of the economy over the next five years.

What are some actions that might at least be considered to reduce the degree of vulnerability to such shocks in the early 1990s? One is to resume filling the strategic petroleum reserve. Its proposed capacity was scaled back from a billion to seven hundred and fifty million barrels early in the 1980s, and the level of fill now stands at about five hundred million barrels. It would make considerable sense to buy the other two hundred and fifty million barrels over a period during which oil prices stand in the neighborhood of $10 a barrel. Moreover, if there are steps that can improve the ability to extract and distribute some of that reserve more quickly and more flexibly in a time of crisis, those should also be taken. The effect of having seven hundred and fifty million barrels available in a crisis would be to provide more time to handle that crisis. Even if import levels were eight million barrels a day, 100 days at normal consumption rates -- and probably double or triple that with conservation efforts that could be implemented in a crisis -- would provide considerable political and strategic flexibility to decision-makers. Even though sharing with allies would be in order, thus reducing the number of days of imports that would be substituted for by the strategic reserve, filling it seems a prudent step to me.

Separately, there is the question of what might be, and what ought to be, done to preserve some exploration and development of oil resources in the United States, so that we do not make the risk worse than it needs to be. Two sorts of taxation have been suggested in response to the fall in oil prices. One is a gasoline tax, which would bring in something approaching a billion dollars for every cent per gallon imposed. The other is an oil import tax, either on all foreign oil or on oil from outside North America (that is, it could exclude Canada and Mexico from the tax). A gasoline tax is probably seen as more equitable, and avoids the charge of windfall profit for American producers. It has relatively little effect on oil security, except for encouraging conservation, since it treats all sources more or less alike. It would not alter the percentage of imports. It could provide substantial revenue, upon which undoubtedly there would be some claims for redistribution to those suffering from higher gasoline tax.

An import tax could be set at a figure high enough to encourage some exploration, drilling, and production capacity in the United States. The tax could be equal to the difference between some arbitrarily set minimum price -- say $17 a barrel -- and the international price. That would amount now to the difference between $17 and $12 dollars per barrel. At the present rate of imports that would approach $10 billion a year. Like the gasoline tax, it would increase the inflation rate slightly. It would also provide considerable revenue for which deficit reduction, defense programs, income transfer programs, and special relief for those who would suffer from higher energy prices would undoubtedly contend. The higher profits that would accrue to U.S. oil producers could be taxed, or even taxed away.

My own judgment is that it would be wise to institute one or the other of the taxes, or some combination of both. If one believes, as I do, that the deficit is a serious problem, taxation on a commodity whose price is falling is a sensible way to get revenue. If one believes, as I do, that we are storing up for ourselves the possibility of a third oil shock, a tax that encourages continuation of a domestic oil production capability and transfers back some of the rent that the OPEC countries took from the United States in the early 1970s and again in the late 1970s also makes sense. And so does filling the strategic petroleum reserve.

Thank you very much.

Robert P Hauptfuhrer
President
Chief Operating Officer

SUN

Sun Company, Inc.
100 Matsonford Road
Radnor PA 19087-4597
215 293 6800

May 27, 1987

The Honorable H. John Heinz
United States Senate
Washington, DC 20510

Dear John:

I am writing with regard to Senator Bentsen's Energy Security Act of 1987, S.694 which was recently included as an amendment to S.490, the omnibus trade bill.

Senator, your help is needed to ensure that this simple, but very important amendment is kept in S.490. The oil industry's domestic drilling efforts have been severely hurt by OPEC's actions which forced prices down over the last year and a half. With falling U.S. production and rising consumption, imports are on an upward and possibly ominous trend.

We don't know for sure if Senator Bentsen's "peril point" of 50% is the correct danger level. But we do believe that requiring an annual assessment of future import levels, coupled with a federal plan of action to prevent exceeding some limit, is an important step for the U.S. to take.

Your support will help to ensure America's future energy security.

Sincerely,

Bob

Robert P. Hauptfuhrer

RPH:cms

The New York Times
Founded in 1851
ADOLPH S. OCHS, *Publisher 1896-1935*
ARTHUR HAYS SULZBERGER, *Publisher 1935-1961*
ORVIL E. DRYFOOS, *Publisher 1961-1963*

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JOHN M. O'BRIEN, *V.P., Controller*
ELISE J. ROSS, *V.P., Systems*

Tax Oil to Save Oil

As surely as rising oil prices taught Americans to conserve energy, lower prices will lead them to forget. That would be a national tragedy, and a foolish security risk. Prices are falling because we conserved. Now that the price is not incentive enough to save, add a tax.

No new oil price shock is in sight. But the world's affordable supplies are still being depleted, and the risk of upheaval in the Middle East is ever present. As long as they last, lower prices mean greater consumption the world over.

Homeowners won't tear out insulation bought when heating costs soared; new energy-efficient buildings won't be razed. But the pressure to spend money for more conservation is being lost.

Just think about automobiles, which burn more than half the oil we consume. At less than $1 a gallon, drivers lose their incentive to slow down and tune up, and they stop caring about mileage ratings on new cars. They drift back into larger models, and Government can't resist relaxing the regulations that made the biggest '86 cars more efficient than the smallest in 1973.

America consumed 17.5 million barrels of oil a day in 1973. Today, in an economy one-third larger, consumption has fallen below 16 million. Dependence on foreign oil has also declined, from 36 percent of consumption in 1973 to 30 percent, and, significantly, the decline is much sharper for Persian Gulf oil.

The Reagan Administration wants only to reap the disinflation benefits. It favors more off-shore domestic drilling and, rightly, more deregulation of natural gas. But it is blindly rushing past this chance to build up the Strategic Petroleum Reserve at bargain prices. For transient budget benefit, it would even sell off three naval reserve fields. And it has unwisely relaxed the pressure on Detroit's car designers.

Federal fuel standards and other regulation would be less necessary if we turned to a tax to encourage more conservation. With prices falling, we could conserve by paying ourselves instead of Middle East potentates.

What's the best form of tax? On alternate days, President Reagan offers to consider a tax on oil imports — provided it's called a "fee" and is used to finance tax-law revisions. Congress, too, seems to prefer an import fee to a tax on gasoline or all energy. An all-energy tax, in any case, would have no special impact on oil consumption. The choice comes down to taxing imported oil and refined products or taxing gasoline at the pump.

An import fee would reduce dependence on foreign sources and encourage domestic production. The oil patch likes the idea because raising the price of foreign oil would let American producers charge more for domestic oil. The consuming states of the Northeast and West Coast and Florida balk at the idea and would, at the least, insist on taxing away the domestic producers' windfall. So taxing imports would lead to taxing all oil.

That would raise the cost of living, retard growth and damage friendly suppliers, like Mexico and Canada, which might need exemptions. The petrochemical industry, too, would want exemption, and who knows who else. The administrative complexity is offset by the political attraction: the public wouldn't much notice an import fee.

A gasoline tax would be highly visible even if it only held prices at prior levels. But it would be simple to administer atop the existing Federal tax of 9 cents a gallon. And it would not discriminate against any region.

Either tax could be shaped to yield as much as $100 billion over five years — $8 a barrel on imports combined with a 50 percent "windfall" profits tax, or 20 to 25 cents a gallon on gasoline. The revenue could help balance the Federal budget and thus improve the economy.

The main and lasting benefit of either tax would be in conservation and national security. An oil conservation tax is good policy any time. It is more easily achieved now that prices are down.

Letters 1986

Gold Standar

CSIS
Center for Strategic & International Studies
Georgetown University • Washington DC

Statement
of
Charles K. Ebinger
Director of the Energy and Strategic Resources Program
Georgetown University Center for Strategic
and International Studies

Concerning S1997 and S1507

Before the Energy Subcommittee
of the Senate Finance Committee
United States Senate

February 28, 1986

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- Three questions should be addressed by the Congress when considering an oil import fee:
  - What is the purpose of a fee?
  - Will the fee solve the "problems" leading to its enactment or will it create new problems?
  - How should the revenue from the fee be utilized?

- If oil prices drop to levels between \$10-\$15/bbl and stay there, we will insure that within a decade U.S. and allied dependence on OAPEC will threaten our national security.

- OPEC has not collapsed. Saudi Arabia, Kuwait and the United Arab Emirates have orchestrated the current drop in the price of oil to regain control of the world oil market.

- Low oil prices threaten the billions of dollars in alternative domestic energy investments made over the last decade.

- An oil import should be used primarily to insure the long-term energy security of the nation not as a means of reducing the deficit or lowering marginal income tax rates.

- Even before the oil price collapse commencing last December, the U.S. domestic refining industry was already under assault because of large volumes of subsidized petroleum product imports not subject to the enhanced costs arising from U.S. environmental laws and other regulatory policies. If an import fee is levied on imported crude oil, a higher fee should be levied on imported petroleum products so as to not place our domestic refiners at a further cost disadvantage.

- Failure to establish a price differential between imported crude oil and petroleum products could lead to further U.S. refinery closings, posing grave problems for U.S. security.

Good Morning, Mr. Chairman,

I am Dr. Charles Ebinger, Director of the Energy and Strategic Resources Program at the Georgetown University Center for Strategic and International Studies (CSIS), a public policy non-profit think tank concerned with issues vital to U.S. foreign policy and national security.

Before commencing my testimony, I would like to thank you for allowing me the opportunity to present my views on the imposition of an oil import fee on crude oil and refined petroleum products as addressed in both S1997 proposed by Senators Wallop and Bentsen and S1507 introduced by Senators Boren and Bentsen. I would like to state that the views expressed are my own; CSIS does not,as a corporate entity, adopt institutional positions.

Before the Congress decides to levy an import fee on crude oil and petroleum products it is essential that the following questions be addressed: (1) What is the purpose of the fee, (2) Will the fee solve the "problems" leading to its enactment or will it create new problems, and (3) How should the revenue from the fee be utilized?

Mr. Chairman, few economists would dispute the fact that over time lower oil prices will provide a financial boon for the U.S. and international economy. Over time, low oil prices will, if left untampered, lower domestic and global inflation, leading to a reduction in our balance of payments deficit. Moreover, if one believes the economic projections emanating from leading consulting firms (DRI, Chase Econometrics and Wharton), lower oil prices will lead to a surge in U.S. economic growth, U.S. government tax receipts, and falling budget deficits.

Mr. Chairman, while lower oil prices can provide a financial bonanza for the U.S. economy, they can also endanger our national security. It startles me how few people in Washington, especially in the policy making community seem to remember that when we held domestic oil prices down in the 1970s through a variety of regulatory policies, U.S. oil imports soared from 6.2 mmbd in 1973 to 8.8 mmbd in 1977. This occurred despite a concerted energy policy to reduce our dependency on OAPEC oil after the embargo of 1973-74.

The reason oil prices are falling today has little to do with a fundamental change in the oil market. Rather, it centers on a political decision by Saudi Arabia, Kuwait and the United Arab Emirates to regain control of the world oil market by forcing oil prices down to a level between $10-$15/bbl where inter-fuel substitution (coal, gas, nuclear, etc.) will be slowed or reversed, where fiscal incentives for conservation will be reduced owing to longer payback periods, where new energy R&D will be cut back, where new high cost oil exploration in Alaska, the Outer Continental Shelf, the North Sea and other high cost areas will be curtailed and where oil demand over time will increase, thus alleviating pressure on OPEC while increasing our dependence on the volatile Middle Eastern region.

Mr. Chairman, even before the recent collapse in oil prices there was little reason to be sanguine about the direction of global oil supply/demand. While it is true that nearly 7 mmbd of non-OPEC crude oil supplies have been added to the world oil market since 1979, by 1987-88, North Sea production will begin to decline, followed by the North Slope in Alaska in 1990. While some new production in the Third World will come on stream, if low oil prices prevail for any period of time, it is impossible to see this amounting to much more than 1 mmbd over the next decade. The fact that these events are occurring against the backdrop of the following events gives little reason for complacency:

1. A World Bank projected growth in OPEC and Third World oil demand of 5-7 mmb/d by 1995.

2. Declining East-bloc oil production and exports.

3. Major declines in the oil reserves of the United States (25 percent), the USSR (25 percent) and Western Europe (5 percent, despite the North Sea) over the last decade, which may accelerate at oil prices of $15/bbl.

4. Sagging U.S. oil production in the lower 48 States.

5. The prospect of major reductions in the growth of coal and nuclear power in many of the OECD nations after 1992 in the absence of major new orders and solutions to the acid rain and nuclear environmental issues, and

6. The transfer abroad by the OECD nations of many of their smokestack industries (steel, basic chemicals, cement, glass, etc), which may presage faster-than-anticipated rises in energy and oil consumption in parts of the Third World, especially at oil prices of $10-15/bbl.

Moreover, few policy-makers in Washington seem to be paying attention to the effect that falling oil prices in the short-run may have on medium-term energy supplies. Between 1963-73 world oil production grew by 25.5 mb/d at a cost of $76.2 billion ($3,000/b of productive capacity). In contrast, between 1973-83 world oil production grew by six million b/d at a cost of $240 billion ($70,000/b of production capacity). While inflation accounts for some of this differential, what these figures clearly tell us is that it is becoming more expensive to find oil, the risks are rising exponentially, and we are finding less of it. At low oil prices the above trends will not only be exacerbated but we could also see a sizeable increase in demand for imported oil as mothballed oil fired electric generation facilities (up to 1.5 mmbd) are brought back into production and high stripper wells (1 mmbd) are closed down.

Given the uncertainties of the market, the following conclusions can be drawn. First, as long as fears of a price collapse or sustained low prices (2-3 years) persist, commercial inventories will remain lean and investment in new exploration and production both inside and outside OPEC will fall, leading to an erosion of global reserve/production ratios. Consequently, it appears likely that by the early to mid-1990s, demand for OPEC oil could hover in the 23-25 mmbd range or even higher if low oil prices persist four or five years. In such a scenario, a political upheaval in any major oil producing country could send oil prices skyrocketing. This prognosis would be disturbing enough, simply on the basis of supply and demand analysis, but unfortunately, OPEC's oil pricing and production decisions do not occur in a vacuum but, as we have seen in 1967, 1970, 1973-74 and

1980, are deeply influenced by political events exogenous to the oil market. Likewise, even in major non-OPEC oil producing nations political upheavals could send shudders through the world oil market.

It is this fact more than any other that leaves the U.S. dangerously exposed to another oil price shock during the mid-to-late 1990s. The spectre of another Arab-Israeli war, the spread of the Iran/Iraq war, the coming to power of anti-Western Islamic fundamentalist regimes, or even terrorist attacks against major oil installations, are all factors that could tear asunder the pragmatic assumptions of Western supply and demand forecasts.

Likewise, those who automatically and complacently assume that OPEC, and especially the Gulf producers, will tailor their production levels to meet world oil demand in the 1990s, do so at their peril. The question we should be asking is, what if Saudi Arabia decides to avoid the financial surpluses of the past and produces only five to six million b/d over the next decade? What if a new generation of leaders, concerned about the erosion of their societies' values brought on by modernization and westernization, decide that their 'black gold' should remain in the ground.

Mr. Chairman, it is against the backdrop of these corcerns that I believe debate over the merits of an oil import fee should commence. Because I believe we are setting ourselves up for another oil shock, I would support an oil import fee when oil prices reach a level that threatens our domestic oil production. Over the last thirteen years, we have achieved enhanced energy independence through conservation, and the development of high cost domestic energy resources, most of which will be placed directly at risk at sustained oil prices below $15/bbl. Free market economics are fine and in general should be encouraged but not when they threaten our long term national security.

It is for this reason that I am opposed to utilizing an oil import fee exclusively either to reduce the federal budget deficit or to lower marginal tax rates. This is a pusillanimous way to avoid tough policy choices in the national defense and broader economic policy arena. To the extent that we impose an oil import fee or a gasoline tax, the revenue derived should go primarily to protecting the long term energy security of the nation by increasing purchases for the Strategic Petroleum Reserve (SPR), to assure that domestic oil and natural gas production does not fall off precipitously, to encourage the development of new energy sources by supporting both federally funded research and development and by enacting taxation policies that support energy development. An oil import fee only has justification on a national security basis if it helps insure the long term energy security of the nation.

Mr. Chairman, while other witnesses may make politically compelling or cogent cases for exemptions from an oil import fee, I must concur with the testimony of Mr. Jandacek presented yesterday and urge that you reject all cries for exemption from an oil import fee were one to be levied. The history of U.S. energy policy during the entire post war period is full of lessons of what happens when special interest groups, be they particular regions or industries, are allowed to dominate energy policy. In almost every case, the problems that the proponents of special treatment have used to justify their arguments have created far more problems than they have solved. Witness the impact of the Mandatory Oil Import Program from 1959-1973, the full exemption of residual fuel oil from that program after 1966, and the fuel allocation system set up by the Emergency Petroleum Allocation Act, which created unnecessary gasoline lines during the oil crisis of 1979-1980.

Mr. Chairman, the only exception that should be made if an oil import fee is levied is to insure that the domestic refining industry not be further assailed by unfair competition from foreign refiners who are not subject to the same environmental and other regulatory laws under which U.S. domestic refiners must operate. I want to make it clear that I am not asking for special treatment but only for equal treatment so that fair commercial competition may occur.

Mr. Chairman, last December I testified before the House Armed Services Committee at the request of the Independent Refiners Coalition, a consortium of 31 refiners, on how rising volumes of oil product imports subsidizd through a variety of mechanisms were potentially endangering U.S. national security. I warned that further refinery closings under the onslaught of "cheap" foreign products could pose serious questions about the United States' ability to meet our fuel requirements to support various national security contingencies.

Neither I nor the IRC asked for special protection for the U.S. refining industry. Rather we urged an investigation by the

Administration under section 232 of the Trade Expansion Act of 1962 of the national security implications of rising volumes of oil product imports. To date our request which has been supported by 44 Senators remains unaddressed.

Given the ongoing seriousness of this problem, I must concur with the Independent Refiners Coalition and the American Independent Refiners Association that if an import fee is levied, the Congress must insure that a higher price differential be established between the import fee on crude oil and on petroleum products, to insure that our domestic refining industry not be placed in further jeopardy by lower cost foreign imports not subject to the same regulations and enhanced costs. Our failure to establish such a crude oil/petroleum products fee differential will not only lead to serious market distortions but will also close down additional refining capacity, posing grave threats for U.S. national security.

Mr. Chairman, for the past thirteen years, U.S. government policy has been to reduce our dependence on insecure sources of oil through a variety of market and non-market mechanisms. Our failure to continue those efforts and perhaps ever to allow some of our successes to be reversed during this period of declining oil prices will endanger the long-term security of the nation.

Thank you, I would be delighted to take questions from the Subcommittee.

Testimony of

George S. Slocum

President and Chief Operating Officer

Transco Energy Company

Presented to the

Subcommittee on Energy and Agricultural Taxation
Committee on Finance
United States Senate

on

S. 1997
S. 1507

February 27, 1986

Mr. Chairman and members of the Subcommittee, my name is George Slocum. I am President and Chief Operating Officer of Transco Energy Company, and I greatly appreciate the opportunity to address the Subcommittee on a topic that is so crucial to the long-term security of the nation.

By way of personal background, I am a graduate of Cornell University, with a Bachelor's Degree in economics and a Masters Degree in business administration. I was employed by Citibank in 1967, reaching the position of Vice President and Senior Credit Officer. Since joining Transco in 1978, I have served as Executive Vice President and Chief Financial Officer and assumed my present position in 1984.

Transco is a diversified energy concern headquartered in Houston, Texas. Our principal business operations include the purchase, transmission, and sale of natural gas in the Eastern United States; oil and gas exploration and production primarily in the Gulf Coast and Rocky Mountain areas; and the production and sale of coal in the East. So, one way or the other, our business energizes several of your home states.

The lesson of the 1970's is that there can be no reliable national security for America unless a firm control over our energy supplies is maintained. Imported energy supplies must not be allowed to reach such high levels that their interruption threatens both our economy and national security. We experienced the consequences of a lack of a national energy policy in the late 1970's. I support the imposition of variable import fees as proposed by Senators Wallop and Boren as one means to achieve that goal. However, I would recommend that the fee be imposed only for an interim period of no more than three years and reevaluated at the end of that time to determine whether it is still merited by national security concerns.

In 1977 the United States was importing almost one-half of our crude oil requirements. That heavy dependency made us extremely vulnerable as a nation to interruptions in supply, whether accidental or intentional. I am sure there is no need to remind the members of the Subcommittee of the gas lines and other economic shocks that accompanied the supply interruptions and foreign imposed price increases of the last decade. By simultaneously reducing demand through conservation and increasing domestic supplies through decontrol of domestic prices we have reduced our dependence on foreign oil throughout the first half of the 1980's. We have now reached the point where imports fill only about one-third of our needs.

However, this level was achieved only because price increases encouraged the surge in conservation and domestic drilling of the early 1980's. A continuation of precipitous price declines that we have recently witnessed threatens to undo much of the progress that has been made. Low prices will not provide sufficient incentive for new drilling nor justify continued operation of marginal wells. On the demand side, significantly increased foreign supplies are becoming available. Our big boiler fuel customers have reported an increasing number of offers to replace natural gas with fuel oil cargos priced at "whatever it takes." It is only reasonable to expect that similar displacements of coal sales are just down the road.

Falling prices have already had a very negative impact on U.S. drilling activity. In December, 1981, an average of 4,520 rigs were at work in the United States. That number has now dropped to 1,376, representing a 70 percent decrease. The rig count has dropped by 28 percent just since the start of 1986. Those idle rigs should now be at work exploring and developing the domestic energy reserves needed in the 1990's. Instead, the nation will be relying on huge amounts of imported energy during the next decade unless we adopt sensible energy policies today.

In the Department of Energy's publication, Annual Energy Outlook, 1984, it was found that imports could account for as much as 61 percent of total U.S. demand by 1995. This forecast assumed a decline in the average import price to $24.00/bbl by 1986 which in retrospect has quickly proved to be conservative.

It is impossible to predict the extent to which foreign producers are willing to drive prices down in order to wrest back the lion's share of the U.S. market. However, professor Bernard Weinstein of Southern Methodist University suggests that the OPEC countries could profitably produce crude oil at prices of $6.00 to $7.00 per barrel. According to Weinstein, at such prices U.S. drilling activity would come to a virtual standstill; demand would skyrocket; and the levels of imports would approach 80 percent. This possibility would not be so frightening if the suppliers were a diverse group. Unfortunately, however, two-thirds of the non-communist world's proved reserves are located in the Middle East and controlled by members of OPEC. Furthermore, production costs in the Middle East are extremely low compared to areas such as the North Sea. Consequently, major OPEC producers could continue to profitably pump crude at very low prices long after wells in other free world countries had been shut-in and, of course, new exploratory and development drilling shutdown. It would not be long before OPEC would again have the upper hand on oil prices and supplies.

It has been suggested by some commentators that recent price declines do not truly represent the free market at work. As your colleague, Senator Nickles pointed out in his January 30, 1986, statement for the Congressional Record, the price cuts represent "calculated maneuvers by Government entities to increase their control over world market forces." Without a doubt, these governments are capable of driving oil prices down to whatever level is necessary to recapture the U.S. market.

Some critics would have us rely totally on foreign producers as long as they hold down prices, and produce our own reserves only when foreign prices escalate to unacceptable levels. Unfortunately, as we learned in the 1970's, low domestic production cannot be turned around overnight. Many of America's independent producers and related oil service companies are already in precarious financial condition, and major companies are announcing capital expenditure cutbacks. Without them we will not be able to restore our domestic reserves to a secure level within an acceptable time frame. At the same time, we should be developing on a limited basis, not closing off, the technology to convert our sizeable resources of coal and shale oil to synthetic hydrocarbons. If we ever reached the point of importing 80 percent of our energy needs and a major supply interruption occurred, it would take years to restore domestic production to adequate levels. In the meantime, both the U.S. economy and national security would be severely, and perhaps permanently, damaged.

Furthermore, the cost of imported oil is already the biggest culprit in a very large federal trade deficit. You can imagine what the deficit might become in just a few years if imports rise to over 50 percent of oil consumption, and once again OPEC forces the price of oil to much higher levels. Such an enlarged trade deficit would have worsening economic consequences for the United States.

Congress should ask the Defense Department about the seriousness of rising levels of oil imports. What does the Defense Department think about import levels greater than 50 percent, coupled with a domestic exploration and development industry flat on its back? Our nation's defense runs on oil - not coal, natural gas, or nuclear energy.

The critics of import fees argue that they would disproportionately burden regions of the country that are heavy consumers of imports, specifically the northeast and midwest.

They fear that import fees would cause their energy costs to skyrocket, thus raising industrial production costs to non-competitive levels. This argument ignores the fact that the proposed level of import fees would be designed merely to prevent a precipitous and destabilizing price collapse.

Some recommend an increase in the gasoline tax rather than imposing fees on imported crude oil and refined products. Certainly such a tax would raise a substantial amount of new revenues and thereby help reduce the enormous federal deficit, but it does nothing to maintain an acceptable level of exploration and development of our domestic energy resources. The import fee does!

It is only through the imposition of import fees that we can arrest America's return to dependency on foreign energy. In doing so, we can send an important signal to OPEC that we have reached the point of no return on our goal toward substantial energy self-reliance. The energy policy decisions that are made today will determine our sources of supply and our national security in the next decade. I recommend that the fees be imposed on a trial basis for a period of no more than three years. This will allow the issue to be revisited at the end of that period to determine whether they are still necessary to preserve national security. If not, the fees should be allowed to expire. I am convinced that much of the historic opposition to import fees has already evaporated in the wake of recent price declines and will disappear if prices plunge to the $10-15 level. I am sure you are aware that today our proven crude oil reserves are only 75 percent of what they were as recently as ten years ago, and they are going downhill fast. If the nation's lawmakers are still not inclined to tax foreign energy, at the very least, they should not compound the problem by further burdening domestic production with higher taxes under H.R. 3838.

Myths about current energy situation

GEORGE P. MITCHELL

My parents were Greek immigrants, and when I was little they would tell me fanciful *paramithia*, grandmothers' tales. Here are a half-dozen *paramithia* about the current energy situation.

■ The oil import fee is a dead issue. Controversial, yes. Dead, no. The Energy Department's new interagency study is badly flawed, but at long last the administration seems to agree that the United States faces a national security risk because of our dependence on imported oil.

Most of the options discussed in the study have Catch-22 features: They would be of benefit after world oil prices rise, but if prices rise, the options aren't essential. The domestic industry has been badly battered. It will take four years to restore its infrastructure and another 10 for the United States to become 75 percent energy self-sufficient. Of all the measures being discussed to revive the domestic oil industry, only a variable import fee would stimulate domestic exploration and development right now. For that reason, the support for an import fee remains strong. Don't count it out.

■ Decontrol of natural gas will give a big boost to the natural gas industry. Natural gas prices should be decontrolled because they warp the market in a part of the energy industry where there is adequate domestic supply. But the main beneficiaries would be the major oil companies, who own most of the gas that would be affected; decontrol will do little for, and it might even hurt, the independents, who drill nine out of every 10 wells in the United States.

Currently, of all the gas now being produced in the United States, an estimated 17 percent is sold at an average price in the range of 70 cents per thousand cubic feet. That's half the going price for gas offered on the depressed spot market, somewhat more than one-third of the average price of all gas. With decontrol, that 17 percent would trend up toward the spot market price while the higher-priced gas would head down. The new prices won't revive drilling for natural gas, which was down by one-third last year.

■ Eighteen-dollar oil is a fair compromise between the $25 when the price slide started and the $8.50 low reached last summer. American oil companies can produce and sell already-discovered oil at $18 and still make money. But they can't afford to look for oil at that price. A study by the accounting firm of Arthur Anderson & Co. showed that the average cost of finding and producing oil in the United States from 1981 through 1985 was more than $15 per barrel. By contrast, Saudi costs, including transportation, are only one-fifth as much as ours. Selling American oil for $18 is equivalent to liquidating the domestic industry.

■ Quit worrying; the United States really is energy rich. We're very rich in coal and quite rich in natural gas. Assuming better incentives become available, we've got enough oil — supplemented by a large increase in natural gas production — so that we can supply 75 percent of our needs for a while. Even though we are the Saudi Arabia of coal reserves, environmental and other costs will prevent that fuel from taking the place of oil and gas until there is great technological advance in controlling acid rain and other pollution problems.

The government needs to invest far more than it does in research aimed at fully developing our oil and natural gas resources in order to see us through the 15 to 20 years before coal's problems are defeated and other fuels are made more practical.

■ A half-billion barrels in the strategic petroleum reserve insulates the U.S. from any significant security problem. Don't set national policy based on that half-fact. True, if we went to war, our own domestic production plus that available from friends and from the reserve would provide for military and, to some extent, civilian needs. That assumes a polite war, with conventional weapons. However, the greatest danger is the confrontation that would arise if an antagonist nation tried to interrupt our oil supply from the Persian Gulf.

Two other points about security: First, under the agreement on an international energy program, the United States is obligated during a supply disruption to share its oil with other nations, so there's less in our pot than you might think; and second, the long-term impact on our already-critical balance-of-payments deficit of importing 8 million or 9 million barrels of oil daily, at steadily increasing prices, is a painful prospect.

■ Don't worry — the Organization of Petroleum Exporting Countries never will get its act together. OPEC will be the winner in spite of itself. At present, the world's excess production capacity is about 12 million barrels daily, and if that were all that matters, we'd have nothing to worry about. But two-thirds of that excess capacity rests in the Persian Gulf mini-cartel of Saudi Arabia, Kuwait, Qatar and the United Arab Emirates. Meanwhile, the productive capacities of other oil nations, OPEC and non-OPEC alike, are gradually shrinking and worldwide consumption is increasing. It's clear then that in just a few years all the excess capacity except that within the mini-cartel will be sopped up, and prices will go skyward.

Look for oil to be between $30 and $35 per barrel in 1990 or 1991, compared with about $19 now. Look for gasoline lines to start re-forming. And that's no *paramithia*.

George P. Mitchell is chairman of Mitchell Energy & Development Corp. in The Woodlands, Texas.

TESTIMONY
OF
MACK WALLACE, SENIOR MEMBER
RAILROAD COMMISSION OF TEXAS
BEFORE THE
UNITED STATES SENATE
COMMITTEE ON FINANCE
WASHINGTON, D.C.
FEBRUARY 28, 1986

Mr. Chairman:
Members of the Committee:

My name is Mack Wallace. I am the senior member of the Railroad Commission of Texas, the state agency which, among other things, regulates the exploration and production of oil and gas and the transportation and sale of natural gas to the consumers of Texas.

I am most pleased to have this opportunity to submit testimony on what I consider to be a crucial issue: The need to impose a tax on crude oil and crude oil products imported into this country.

I

Let me begin by being blunt. We must take swift action to extricate this nation's energy base from its current nose dive into subjugation under the direction of foreign governments.

Presently, we are losing the "energy war" by default.

Recent events of the past few days, weeks and months affecting this nation's energy position in the world should be cause for grave concern to all Americans.

I am convinced we are witnessing an approaching tragedy with staggering consequences that threaten not only our economic stability but our national security as well.

These events impinge directly on the ability of the United States to search for and produce the natural resources that are absolutely essential to our national interest.

II

The jeopardy we face is dramatically illustrated by looking at current drilling information -- drilling activity in the United States has fallen to levels not seen in the last 10 years.

A total of 7,419 permits were issued to drill for oil and gas in the United States during the month of January -- a decline of 13.3 percent from the comparable period in 1985. New field wildcat permits issued for the month numbered 636 -- down more than 28 percent from one year ago. Other exploratory permits -- drilling in and near existing fields -- totaled 731, a decline of more than 30 percent from the January, 1985 total.

There is more oil and gas yet to be found and produced in America -- lots more with our improving technology -- but not under the present circumstances of foreign manipulation, coupled with the lack of a long-range national energy policy.

Our imports of crude oil and products, on the other hand, are creeping upward and presently amount to 5 million barrels a day, roughly 30 percent of our needs. Since 1972, the United States has spent $549 billion for oil and oil product imports.

These numbers are unacceptable to me, especially at a time when our own government is also considering increasing taxes in the guise of tax reform on our energy explorers and producers.

Yet, the present administration and many in the Congress seem oblivious to the danger at hand.

Nine months ago, the Texas Legislature, by concurrent resolution, called on the President and the Congress to impose a tariff on all imports of foreign crude oil and foreign petrochemical products, declaring that the stability of America's oil and petrochemical industries is being threatened.

In the U.S., we saw our reserves of oil and gas decline in the 1960's. We saw both reserves and production decline at alarming rates during most of the 1970's, and with that decline the intolerable dependence of this country on foreign energy supplies.

With the level of drilling of the early 1980's, we added reserves equal to production and stabilized production. We now face acutely depressed drilling activity and with it the certain return to the decline and dependency of the 1970's.

III

Let me put some numbers on the decline and dependency we can expect with oil prices at $15 per barrel.

In the U.S. we have a large volume of production coming from wells with a low daily yield. In Texas, a good representative of the U.S. lower 48, more than 95% of all wells produce less than

50 barrels per day and two-thirds of all wells produce 10 barrels a day or less, the so-called stripper wells.

Obviously, production from these low-yield wells is very sensitive to price. In the U.S. a total of 1.3 million barrels per day is produced from about 350,000 stripper wells. About 400,000 barrels a day come from wells producing three barrels per day or less. At $15, the great bulk of these wells and a significant number of other more costly stripper wells, will be plugged and abandoned. In excess of 400,000 barrels a day of capacity will be lost over the next 12 months. If prices were to fall to $10, the loss would be closer to a million barrels a day.

Severely reduced cash flow at $15 per barrel will reduce oil drilling drastically, both for reserve growth and new field discovery, yielding a corresponding loss of reserve additions. While additions nearly equalled production over the past five years, the reduction in drilling at a $15 price will result in a lower 48, non-stripper production decline of about 5% annually. This translates to a production loss of 2 million barrels per day by 1990, and nearly 4 million barrels per day by 1995.

Alaskan North Slope production, now 1.7 million barrels per day and chiefly from the Prudhoe Bay Field, will go into normal decline in 1987. An annual decline rate of between 12 and 15% is anticipated. This will reduce Alaskan North Slope production to about 1 million barrels per day by 1990, and to 600,000 barrels per day by 1995. While about 1 million barrels a day of additional capacity exists in already discovered, smaller fields on the North Slope, production and transportation costs will make this capacity uneconomical at $15 per barrel.

IV

U.S. consumption of oil and liquids has stabilized at about 15.5 million barrels per day over the past four years, after marked declines earlier. At $15, increase in demand will be stimulated. By 1990, demand could be between 16.5 and 17.5 million barrels per day. Even at a conservative growth rate, our projected 1990 import level will be equal to the highest levels of the 1970's. By 1995, we could be depending upon imports for two-thirds of our supply.

As the free world's largest producer and consumer of petroleum, we should not allow that to happen again.

The ability of the United States -- all regions of the United States -- to provide a secure domestic energy resource base is a national issue and a strategic part of our national security.

We are all in this boat together. No purpose is served for one region of America to point to another and say, "Your end of the boat is sinking..."

I can assure you, when it comes to energy, we will sink or stay afloat together.

News stories talk about the glut of world oil being "exacerbated" by OPEC. I would declare that the present situation is not "exacerbated" by OPEC, it is "caused" by OPEC.

V

Today's shattered oil market is nothing more than the calculated result of another determined effort by the Saudi Arabians to manipulate energy exploration, production, and price; as well as thwarting development of alternative energy sources.

They are succeeding. If this OPEC scheme is not challenged now, we shall be brought to our knees once again, as we were in 1973.

I urge you, in the strongest terms possible to respond swiftly to this challenge. We must not return control of our energy destiny to unstable foreign sources.

The most important action this committee can take is to recommend the imposition of a sliding tariff on imported crude oil and crude oil products targeted at an agreed upon price.

Revenues generated would depend on the magnitude and level of the tariff.

Such revenues could be aimed at reducing this country's unconscionable deficit.

But, the long-term, primary value of such a tariff on imported crude oil and products far exceed any benefits to the budget deficit.

We will have stabilized America's ability to produce our natural resources. We will have declared to the world that we consider the exploration and production of our energy needs to be absolutely essential to our national security.

Members of this Committee, today, we find ourselves in common peril. If we are to survive, we must join in common purpose.

This nation must come together as one wheel with many spokes -- all determined to move the United States in the direction of energy production at home, which means jobs, self-reliance and national security.

For this reason, I urge this Administration and the Congress to enact as an emergency measure a "national security" tariff on crude oil and crude oil products imported into America. As I said earlier, this tariff could be a "sliding" tariff which would send a clear signal to oil producing countries that we are going to shore up our domestic capability and declare that we are prepared to protect our own reserves.

Let such a tariff become the cornerstone of a bipartisan domestic energy policy for which all can share in the responsibility.

VI

In this economic war for energy, I believe that if action is not taken now and Saudi Arabia or any other foreign government is permitted to continue to manipulate production levels and price, the first casualty in this world-wide scenario will be the United States followed by Britain's North Sea fields.

The control of energy, then, will be effectively placed for the foreseeable future in the hands of Persian Gulf producers and the West will have been dealt a crippling blow in its domestic ability to produce oil and gas.

At a national coal conference in Chicago in 1979, I warned that the energy lifeline to the West from the Persian Gulf is dangerously susceptible to disruptions from a variety of sources. I specifically named the following:

-- a rebel coup;

-- a blockade of the Straits of Hormuz;

-- an invasion of Kuwait or Saudi Arabia; or

-- an interrupted shipping lane by one of the warring nations of the African continent.

Is there anyone in this room secure in the knowledge that none of these could occur today or within one to five years?

In conclusion, let me ask you to consider these factors:

-- By virtually all reports I have received from operators, exploration and production budgets for the United States have been slashed substantially. This will effectively put this country under a drilling program that only protects lease holdings.

-- A U.S. Department of Energy proposed National Energy Plan forecasts increased reliance on oil imports into the next century. By 1990, the U.S. will be more heavily dependent on oil imports than it was before the 1973 oil embargo. A decline in domestic production is forecast.

-- Middle East and North Africa reserves of 433 billion barrels dwarf U.S. reserves of 27 billion barrels.

-- 75 percent of the crude oil and products in the world is produced by governments -- not oil companies. The production of oil and gas then becomes an instrument of foreign policy. This is clearly illustrated by the Soviet Union's decision of a few months ago to withhold the deliverability of crude oil to Western nations thereby raising the price of crude oil.

-- Approximately one-half of the U.S. trade deficit is in crude oil and product imports.

In times of danger, it has been this nation's history to rally its forces to fight for the values it considers essential to its survival.

Time and time again, the forces of the United States -- whether they be political, economic or military or from one region or another -- have joined together to deflect strikes aimed at its cherished values.

One of the most basic of those values has been American independence. And, in our modern history, one of the ways we have successfully defended our independence has been through the recognition that a secure, domestic energy resource base is a strategic part of our national portfolio.

A national goal of energy independence that assures this country a long-term, adequate fuel supply has been a long-standing one -- up until now.

Isn't it time we take the necessary steps to free ourselves from this foreign dependence?

Isn't it time we free ourselves economically and free ourselves strategically?

Must we wait for an international disaster before we take the energy steps necessary for our own national interest and security?

Thank you. I will be happy to respond to any questions you may have.

Testimony of

THE AMERICAN JEWISH COMMITTEE

OIL IMPORT TAX
S. 1997 and S. 1507

U.S. SENATE COMMITTEE ON FINANCE
SUBCOMMITTEE ON ENERGY AND AGRICULTURAL TAXATION

Presented by

Dr. Lawrence Goldmuntz
February 27, 1986

The American Jewish Committee
165 East 56th Street
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My name is Lawrence Goldmuntz. I am President of Economics and Science Planning, Inc., and Chairman of the Energy Committee of the American Jewish Committee (AJC). AJC is a national organization of approximately 50,000 members which is dedicated to safeguarding the civil and religious rights of Jews and to the advancement of fundamental freedoms for all people. It is concerned with a wide range of public policy issues. AJC has been involved in energy issues since 1972. AJC's Energy Committee, among whose members are leading energy analysts, was organized at that time in response to the economic and security threat to the U.S. arising from OPEC's activities and oil embargoes.

Since 1972, AJC has urged the U.S. to encourage energy production domestically and abroad as well as to promote conservation. Its policies have been consistent with protection of the environment. In particular, we have supported fuel economy standards, gas and oil deregulation, the use of fuels alternative to oil and an oil import tariff to accomplish all these objectives with a minimum of intervention in the marketplace.

U.S. dependence on imported crude and oil products is likely to increase in the 1990s and beyond. Lower international oil prices are already resulting in decreased domestic exploration and lessened incentive to conserve or switch fuels. This will only exacerbate U.S. dependence.

Imports are projected to increase substantially to about 50 percent of total consumption by the early 1990s, a situation that led to the oil shocks of the 1970s -- endangering national security.

The oil import tax is the single most important measure available to the U.S. to minimize the possibility of another oil shock before the end of the next decade. While there are substantial proven and probable reserves in many parts of the globe, there does not seem to be much oil left in the U.S. Approximately 1.2 wells have been drilled per square mile of sedimentary basin in the U.S. However, only 0.02 wells have been drilled per square mile in the rest of the world. This results from the relative security of U.S. investments as compared to the rest of the world where expropriation is common, and it continues despite the relative poor prospects for discovering additional domestic reserves.

For example, investment in exploration and production in the U.S. was approximately $37 billion in 1983, a region that comprises only 5 percent of the world's prospective oil-bearing area. In the rest of the world, containing 95 percent of the world's remaining prospective areas, only $37 billion was invested in 1983.

The U.S. has only 28 billion barrels of proven reserves left and consumes 5.5 billion barrels annually of which approximately one-third

(4.5 million barrels per day) is imported as crude or product. In recent years, the finding rate of domestic oil has approximately matched consumption; however, this finding rate is going to decrease due to the substantial reduction in exploration budgets caused by the collapse in oil prices. Before the collapse in oil prices, the Congressional Research Service predicted a reduction of from approximately 9 to 29 percent in U.S. oil production in the year 2000 as compared to 1982. The reduction in U.S. production is likely to be even more substantial than predicted since oil prices have dropped approximately 35 percent since the date of that projection.

Furthermore, consumption is bound to increase as oil prices decrease. We can see evidence of this in the relaxation of Corporate Average Fuel Economy Standards (CAFE), the purchase of larger automobiles, the slowdown in conversion to fuels other than oil in all segments of the economy.

The combination of the decrease in domestic production and increase in consumption is going to lead to an import level of 8-10 million barrels per day probably within the next decade, and almost certainly by the year 2000. This level of imports exceeds those prior to the oil shocks of 1978-79. Oil imports today -- at one-half this projected level -- account for one-third of the U.S. trade deficit. The economic stress and national security exposure of imports at double the current level is extraordinary. Furthermore, a weakening dollar may convince OPEC to accept only a market basket of currencies -- rather than dollars -- for oil purchases which would further weaken the dollar and further increase the cost of oil imports to the U.S.

The imposition of a substantial oil import tariff, which would increase over a few years, would maintain U.S. conservation and fuel switching efforts and, thereby, diminish our need for imports. A tax on imports is preferable to a tax at the gas pump, since gasoline sales represent less than 50 percent of petroleum use. Fuel switching and conservation are probably more feasible in many non-automotive petroleum requirements, and a tax at the pump is not effective in these areas. Even at the $10-$20 per barrel tariff level, U.S. gasoline prices would still be considerably less than those of our trading partners in the OECD. These trading partners have complained over the last decade that we were the largest importers of oil and had the lowest gasoline prices and that the U.S. was inhibiting a unified approach to OPEC.

There are some aspects of an oil import tariff that are secondary to the national security aspect. Should the tariff be revenue neutral? If it is imposed, should there be a corresponding reduction in a similarly regressive tax such as the social security tax? Should a comparable tax be applied to domestically produced oil? If there were a tax on domestic oil, there would be no incentive to maintain domestic production. If there were not --at least to a certain extent -- some would complain of a windfall for domestic producers. While these issues are important, their resolution is not central to AJC's arguments for the imposition of the tariff.

There is another important aspect of the oil import tariff. Since there is now a buyer's market for oil, and since it is likely to persist for some period, the cost of the full tariff will not be absorbed by the U.S. consumer. The oil producers will have to absorb a considerable portion of any tariff for as long as the glut persists. Isn't it wonderful to have a tax that somebody else helps to pay.

A tariff will cause some friendly oil producers hardships. There are ways to handle these problems on a hemispheric or bilateral basis. They are of concern but of secondary importance to the national security and economic consequences of not imposing an oil tariff.

The tariff should have been imposed some years ago. It takes time for an automotive fleet to turn over to more fuel efficient cars; it takes time to build a nuclear or coal plant; it takes time to switch industry out of oil. We do not have much time left measured in terms of the changes needed in our energy infrastructure before the next oil shock.

The American Jewish Committee, therefore, strongly urges a substantial tariff on imported oil, right now, as a national security measure.

If the U.S. does not take this action, then the country is faced with the less satisfactory alternative of providing tax incentives, tax credits and direct grants to increase domestic production, encourage conservation and promote fuel switching from oil.

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REMARKS BY JAMES W. HUNT

CHAIRMAN, NATIONAL ENERGY POLICY COMMITTEE
TEXAS INDEPENDENT PRODUCERS AND ROYALTY OWNERS ASSOCIATION

Mr. Chairman and distinguished members of the Committee, thank you for providing me with the opportunity to participate in this important hearing today. I am James W. Hunt, chairman and chief executive officer of Cenergy Corporation, an independent oil and gas exploration and production company in Dallas. Today, I am representing the Texas Independent Producers and Royalty Owners Association as chairman of TIPRO's National Energy Policy Committee.

Last summer, TIPRO adopted a "National Energy Security and Conservation Policy," which, among other things, calls for a fee on crude oil and petroleum products imported into the United States. As the largest state independent producer group in the nation, TIPRO has advocated its position as necessary to protect our nation's economic and strategic security by stabilizing falling domestic crude prices, with the favorable side effects of raising funds to reduce the federal deficit and providing relief for our troubled trade account.

You might wonder why TIPRO is assuming the political risks of encouraging Congress to adopt an oil import fee at the same time we are fighting against proposed changes in the current domestic tax treatment of intangible drilling costs and percentage depletion.

The answer to that question is simple: America needs a sound energy policy that encourages a strong domestic oil and gas industry in order to minimize the threat to our national security created by unacceptable levels of imported petroleum products from often unstable foreign governments.

We learned in 1973 during the Arab oil embargo that an energy crisis can create havoc for America's entire economy. In 1979 -- for the second time in less than a decade -- public concern was revived over how the U.S. economy could be controlled by foreigners. Our lives and our jobs were suddenly disrupted by questions of where we would obtain an adequate supply of energy to meet our nation's requirements for transportation fuel, electricity, and most importantly, a strong defense.

Today, America faces the prospects of rising imports, increasing consumer demand, and declining activity in domestic oil and gas exploration and production. We are once again facing a dangerous situation of overdependence on imports to supply our energy needs.

In the beginning, I was personally reluctant to accept the idea of an import fee on oil because of opponents' arguments that it could reduce the Gross National Product by increasing oil prices to American consumers and weaken the ability of energy-intensive U.S. industries to compete with their foreign counterparts. But as chairman of TIPRO's National Energy Policy Committee, I realized I had a responsibility to keep an open mind, consider all aspects of oil imports, and represent what would be best for the domestic oil and gas sector as a whole. Well, I learned something. When you drop your guard, abandon your defensive emotions, and witness what is going on in our industry, in the real world, you see things differently. You have to start by admitting that a discussion on an oil import fee should not be an academic exercise of debating economic theories. This is not theory, it's the real world.

If America was heading toward an overdependence on imported drinking water, all the economic arguments to the contrary would be completely thrown out. The federal government would take positive steps to assure an adequate domestic supply of water; otherwise the nation's people could die of thirst. It's easy to understand the consequences of doing otherwise because thirst is easy to understand. Well, I say that America is thirsty for an adequate supply of domestic oil.

In short, you, your colleagues in the House and Senate, and the President -- as elected caretakers of our nation -- are currently faced with an important question: Shouldn't a stable supply of domestically produced oil and gas be the foundation for satisfying our nation's vital and fundamental need for energy? The answer to that question is, without doubt, yes.

I am not talking about a goal of energy independence, but the need for a national energy policy. The United States is going to import some portion of its oil needs for the foreseeable future. But should this amount increase just because certain nations are currently dumping crude oil onto the world market, causing the price to fall so quickly that the domestic industry has no economic choice but to stop important drilling programs?

Current events dramatically underline the fact that this is not mere speculation. Posted crude prices in the United States are rapidly dropping to the $15 per barrel level. Responsible independent operators have advised TIPRO that operating costs for most stripper wells in the nation's mid-continent area slightly exceed $15 per barrel. Should prices dip below that level for just a few months, there will be a massive shut-in of domestic producing wells.

Stripper wells provide approximately 15 percent of the nation's total daily crude production. Other high cost production includes Alaskan North Slope oil, which is another 15 percent of the national total and California heavy crude oil, which is approximately ten percent of the total. Should all three of these sources dry up, imports would have to double virtually overnight to meet America's energy needs. The consequent problems arising from such a supply shift would be severe. No longer would it make sense to express euphoria in the nation's media over the "benefits" of sharply declining petroleum prices.

Unfortunately, there are those who forget about energy security when gasoline prices are falling at the pump, despite the fact that price declines at the service station represent only a small percentage of the rapid drop in oil prices at the wellhead. Most of our domestic rigs are already stacked. If America does not wake up to this danger, we will be back at the import dependance level that endangered our nation's economic and strategic security in the 1970's. Without domestic exploration and production, we will once again be giving foreign nations a powerful weapon that will make us vulnerable to political blackmail, which at the very least could mean exorbitant energy prices in the future. Finally, everyone would understand, admittedly the hard way, that the best long range interest of American energy consumers requires a secure, economically developed core supply of domestic production.

The situation reminds me of the old movie theme that portrays the man selling his soul to the devil for an immediate pleasure. When the devil comes to collect, the sinner regrets having taken the easy way out. Well, you could say that America runs the risk of doing just that if we continue to look beyond the real price of imported oil. Shall we sell our souls to OPEC just to get cheaper oil prices today? The devil always comes back to collect his dues. Let's not allow Hollywood the chance to make a documentary film on us making that mistake. Casting could have a ball picking the characters in that one!

The federal government took steps in the 1970's to protect America from being vulnerable to foreign oil producers. To insure that accessible, affordable energy would be provided in the future to all segments of our society, federal programs were put into place for development of synthetic fuels, a strategic petroleum reserve and protection of shipping lanes. American taxpayers have paid ever since and continue to pay the costs of "protecting" imported oil supply through these programs.

In effect, Americans have paid more for so-called "cheap" foreign crude than for domestically produced oil by:

* Filling and maintaining the Strategic Petroleum Reserve at the cost of more than $15 billion, with interest alone on this expense totalling approximately $1.5 billion per year, or almost one dollar per barrel of imported oil;

* Expending more than $57 million in administrative expenses alone for the Synthetic Fuels Corporation, with further possible outlays expected when shortages in conventional fuels reoccur;

* Paying as much as $50 billion a year, according to some Congressional sources, to protect the shipping lanes in order to maintain oil import flow to the United States.

A policy that requires foreign producers to pay a portion of these "hidden costs" of oil imported into the United States will lessen the burden on American taxpayers by reducing the federal budget costs for import protection and providing incentives to develop domestic reserves. Furthermore, since approximately 50 percent of our trade deficit is due to oil imports, increasing domestic production would reduce the huge annual outflow of dollars from the United States.

We learned in the 1970's what an extreme rise in the price of oil could do to American jobs and economic output. An extreme drop in the price of oil can have similar severe consequences. In short, rapid changes in oil prices generate dangerous economic strains regardless of the direction. If we risk dismantling our nation's oil and natural gas industry because foreign oil supplies currently seem cheaper, the U.S. could become nearly a 100 percent importer of crude oil and our nation could truly become hostage to the political uncertainties of nations in the Middle East and North Africa, which control the surplus supply of petroleum.

Consider these facts:

* OPEC nations control most of the world's proven oil reserves and 95% of the world's unused oil production capacity, and their production costs are significantly lower than ours;

* It's not uncommon for a Saudi Arabian well to produce 36,000 barrels per day, while an average U.S. oil well produces less than 15 barrels per day;

* Countries that import oil into the United States do not support federal, state, and local government programs by paying state taxes, production taxes, severance taxes or windfall profit taxes. The domestic industry has paid more than $77 billion in windfall profits taxes alone since 1980. Imports have paid none.

An oil import fee should be a temporary measure that can be used to counter the "dumping" of cheap foreign oil on the world market by countries who control the surplus supply and are currently participating in a strategy to increase production in an effort to discipline other oil exporting nations.

Such a tariff system would not be a windfall for independent domestic producers, but a measure designed to keep them alive and competitive in a world market by capturing for domestic purposes some of the economic rent -- the difference between selling price and production costs -- now going to oil exporting countries and shifting to foreign producers part of the cost burden of maintaining import flow into the United States.

Domestic reserves must be maintained to avert embargo risks. Both domestic producers and consumers should be protected from the extreme fluctuations in the world oil market created by the whims of nations who would undermine our goal of ensuring a consistent supply of adequate and affordable energy.

In the 1970's, in order to protect consumers from the shock of huge price increases and to keep the domestic industry from becoming too profitable, Congress imposed the windfall profits tax on domestic producers. Now we need the reverse of the windfall profits tax; we need to protect consumers from the consequences of severe price declines. Congress must determine a stabilizing price level for crude oil that will allow producers to maintain a domestic petroleum industry capable of minimizing reliance on foreign oil. So long as the exporting countries' incremental producing costs do not exceed the U.S. benchmark price less the import fee, competition will lead the exporting countries to absorb at least a portion of the fee, leaving the world price (the price outside the U.S.) substantially lower than it would have been without the fee. Such an outcome would be favorable to the U.S. economy as a whole. Foreign producers would be paying a tax to the U.S., at little or no added expense to U.S. consumers.

The best guarantee against "hijack" prices in the future is to keep the infrastructure of the industry diversified so that independent producers and the service industry can survive. If domestic exploration and production collapses, we may well see only a few international oil companies -- many of them owned by foreign governments who have no regard for the American consumer -- controlling the price and supply of oil.

Just as overdependence on imports adversely affects our nation's consumers and producers, other important factors of our economy also suffer. For example, in Texas, economists at Southern Methodist University have predicted in a study recently released by our own Senator Lloyd Bentsen that Texans could lose 250,000 jobs and $30 billion in purchasing power over the next three to five years if oil prices settle at $15 per barrel. The primary victims will be small businesses, Texas banks, and blue and white-collar employees.

Having discussed the economic reasons for needing a secure domestic oil and gas industry, I would now like to move briefly to the strategic reasons why we need a stable domestic industry. Simply, the domestic oil and gas industry is a defense industry, and is vital to the survival of our nation. The Department of Defense is the nation's largest consumer of petroleum, even in peace time, and use is projected to quadruple in the event of war.

Tanks, airplanes and ships require petroleum to operate. Currently, U.S. planes, ships and land vehicles consume more fuel than they did in 1975 when concern was expressed about supply interruptions. What is the sense in advocating an annual $260 billion plus defense budget, if we don't have a secure supply of energy to operate our strategic machinery?

Now I realize that we've got plenty of oil for the military to run a war -- the military will get their oil. So, America's military security is not in danger. But where will the Defense Department get its oil in time of shortages? Like a 900 pound gorilla, anywhere it wants to -- from you, me, airlines, manufacturers, etc. And that's how America's economic security is affected. The economy is a factor in national security, too -- just like defense. Our defense needs will be satisfied in times of oil shortages by robbing the economy.

The President and Congress have set a precedent for protecting national security through certain policies. For example, President Reagan and the Congress have agreed that the United States will not allow critical military equipment, such as naval vessels, to be contructed in foreign countries (10 U.S.C. 7309).

I notice no one has suggested we disband the Army, Navy, Air Force and Marines and rely on the free market to supply mercenaries at the cheapest available price to defend our shores. Think of the money that would save -- we could eliminate the budget deficit by liquidating the Department of Defense. But that's ridiculous. We all realize we must pay for preparedness. Well, I say it is just as important to our national security to have a secure supply of domestic petroleum to operate our military equipment and fuel our economy.

The Soviet Union, a leader in world oil production, is not dependent on imports. The petroleum balance, frequently overlooked in discussions of the strategic balance between the United States and the Soviet Union, has tilted toward the USSR because of its self-sufficiency and export leverage. Further, by increasing oil imports, the United States could very well strain relations with less richly endowed allies who resent the United States' unwillingness to fully develop domestic energy resources and doubt America's ability to honor commitments in an oil crisis.

TIPRO believes that a sound national energy policy requires that an import fee on crude oil and petroleum products be adopted, in addition to the retention of existing incentives for oil and gas well drilling in the United States. This is planning ahead for the military and economic security of America and the free world.

Americans have had it so good for so long in this country that many of us think God guaranteed all this energy to us forever at cheaper than replacement costs. That's just not so. The U.S drilling rig count continues its precipitous decline. With oil prices weakening further, Hughes Tool Company counted 1376 active rigs in the United States last week, off 37 percent from a year earlier.

That total is the lowest in more than a decade and is predicted to drop even further.

We independent producers have had the responsibility of discovering almost 90 percent of the oil and gas produced in this country. Some of us are now accepting the responsibility of informing our nation about the dangers of increased reliance on petroleum imports, not only for the sake of our own industry, but most importantly for the well-being of all Americans.

I thank you for the opportunity to tell our story today, and appreciate the support that you, Mr. Chairman, and many of the members of your Committee have given us on this issue. I would be happy at this time to answer any questions that you might have regarding TIPRO's position on an oil import fee.

THE NATIONAL AND REGIONAL BENEFITS
FROM AN
OIL IMPORT FEE

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Prepared for: Subcommittee on Energy and
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Problems in the oil patch

For several years, the U.S. oil industry has been in the throes of a major structural adjustment. Manifestations of this adjustment include lower levels of production, a rash of merger and acquisition activity, and decreasing international competitiveness.

These structural adjustment problems have been exacerbated by the recent precipitous drop in crude oil prices. Since 1981, average prices have dropped about 60 percent, with more than half this decline occurring over the past two months. Consequently, the domestic oil industry finds itself today facing an extremely uncertain future.

Recent developments in Texas illustrate the severe economic dislocations that may occur if the free fall of oil prices goes unchecked. Since 1981, the state has suffered a net loss of 33,000 drilling jobs plus another 118,000 in oil-related manufacturing. The Center for Enterprising estimates that if oil prices should remain in the $15 range for the next several years, Texas could lose another 250,000 jobs while $30 billion of purchasing power is siphoned from the regional economy.

Of the many sectors within the oil industry, the exploration and drilling business has been hardest hit by the post-1981 price decline; and, barring remedial action, this sector will experience the greatest amount of distress from the 1986 price drop. Unlike the processing and distribution side of the oil business, exploration and drilling activity is dominated by thousands of small, independent companies. In Texas alone, there are over 5,000 drilling companies, oil-field service companies, and royalty owners. These "Mom and

Pop" producers are responsible for about 60 percent of the Texas' total oil production. They are, quite literally, on the front lines of the oil price war and will be the first to fall should prices remain at their current levels. Already, thousands of wells have been shut-in across Texas and other southwestern states. And most stripper well production, which accounts for 15 percent of the nation's output, will cease at prices below $17.

It is important to point out that while Texas and other energy-producing states may feel the initial pain of plummeting oil prices, other regions of the country will be affected as well. The oil industry employs close to 1 million workers nationwide. Though production is centered in the Southwest, administrative activities are concentrated in major metropolitan areas such as New York, Chicago, San Francisco and Los Angeles. (Ironically, none of the major oil companies producing in the state of Texas have their headquarters in the state.) As the industry continues to contract, jobs will disappear along the East and West Coasts as well as the Gulf Coast.

The case for an oil import fee

Because of the oil industry's strong backward and forward linkages to other industries, and because of still stronger linkages to several regional and local economies, its contraction has resulted in severe dislocations of workers and investment. Traditionally, problems associated with industrial and regional decline have bee met with ad hoc policy responses by federal, state and/or local governments. The auto, steel and agricultural industries have been the beneficiaries of considerable federal assistance, for example. At the same time, the experiences of other distressed industries and communities demonstrate clearly that such policies, however skillfully designed and implemented, cannot reverse industrial decline and local economic contraction. What is required, therefore, is a policy response designed to alleviate the more severe consequences of the process of industrial change without obstructing that process or imposing unacceptable and unjustified costs on taxpayers and consumers.

An import fee appears to be the most appropriate vehicle for dealing with the current set of dislocations resulting from rapidly falling oil prices. Within the context of the broad and long tradition of governmental assistance to distressed industries, an oil import fee would represent a comparatively passive measure that does not require the additional expenditure of federal monies at a time when the federal budget deficit has achieved a record high.

For the oil industry, an import fee would have a beneficial impact overall, though its consequences differ for the production and processing phases of the industry. For oil and gas extraction, an import fee would serve not only to slow the long-term decline in crude oil prices but also to mitigate the volatile fluctuations that have characterized oil prices since the end of 1985. Volatile fluctuations in oil prices, sometimes on the order of $2 per day, frustrate lenders and drillers who must pledge their future production as collateral in order to secure working capital.

Another result from an import fee would be the stabilization of the currently plunging rig count, which is currently 40 percent below year-ago levels. Over time, an import fee might serve to stimulate drilling modestly, despite the downward trend in oil prices. A stable rig count, in turn, would allow the industry to soak up the currently excessive inventories of drilling equipment, stabilizing the depressed machinery industry.

Certainly, over the long-term, an import fee would not halt or reverse the structural forces that are changing the production phase of the oil industry, but it would slow the process of decline sufficiently to allow drillers and manufacturers greater time in which to carve out new niches in the market or diversify.

For the processing phase of the industry, an import fee probably means a modestly higher price for crude inputs, although given the current state of the industry and its long-term prognosis, such a concern is largely a moot issue. Particularly as refiners move increasingly to relatively specialized, high value-added and demand-inelastic products, and out of basic petrochemical feedstocks, fuel oil and finished gasoline, crude oil costs will be of diminishing economic consequence.

The regional impacts of an import fee would be more pronounced. Effectively, such a fee would serve to mitigate the severe dislocations of workers and investment that currently characterize many parts of the once prosperous Southwest. Indeed, an oil import fee represents an equitable and cost-effective means of assisting declining regions and communities at a time when federal intergovernmental assistance is waning and other forms of federal largesse are threatened by Gramm-Rudman and other budgetary reductions. For energy-consuming states in the Northeast and Midwest, an import fee would likely have little negative impact because: (1) some of the fee would be shifted backward to producers of crude oil and refined products; that is, consumers would not bear all of the burden of an import fee, and (2) empirical evidence indicates that energy costs are an increasingly unimportant influence on manufacturers' production and location decisions.

For the national economy as a whole, an oil import fee would also yield benefits. The fee would raise additional federal tax revenue at a time when it is sorely needed. Most initial estimates place the value of such revenue at $40 billion over the next five years, given a $5 per barrel fee. In conjunction with a 15- to 20-cent increase in the gasoline excise tax, tax revenues could rise up to $100 billion. Moreover, the import fee would encourage the stabilization or slower contraction of an industry that has strong linkages to non-energy industries throughout the economy.

Tax and Regulatory Relief

Several tax reform proposals contain provisions calling for the removal of the oil and gas industry's current tax and regulatory relief advantages. Repeal of these preferences, which would effectively increase the tax and regulatory burden on an industry that is clearly distressed, is neither efficient nor equitable public policy. This is an argument applicable more broadly to all distressed industries and to all levels of government. Generally, increasing the tax and/or regulatory burden on a mature or declining industry will serve only to hasten its contraction.

Conclusion

The domestic oil industry has been in the midst of a contraction for the past five years, with the exploration and drilling side of the business suffering the most. With international oil prices continuing to fall, the long-term outlook for this sector is not promising.

Imposition of an oil import fee will not "protect" the domestic drilling industry. The contraction already underway will continue for the foreseeable future. But an import fee, based on a sliding scale that maintains a price in the $20 range, can help cushion the severe blow currently being felt by thousands of small drilling companies and oil-field service companies as a result of the 50 percent drop in average crude oil prices since last fall.

Finally, the question of energy security must also be posited as a justification for an oil import fee. In response to higher prices in the 1970's, increased domestic production and conservation enabled us to reduce our reliance on foreign sources of supply. From a dependency ratio that exceeded 50 percent a decade ago, we now rely on foreign oil for only about 30 percent of our national needs. If oil prices continue their freefall, we could once again become overly reliant on oil imports as domestic fields are shut-in and domestic production companies go out of business.

Today's low oil prices are not determined by free market forces. Prices have been depressed through foreign government interventions, most notably actions by Saudi Arabia and other OPEC producers. Similarly, rising prices during the 1970s were also the result of foreign governmental interventions. During that era, we imposed a windfall profits tax that reduced returns to domestic producers on the upside. An oil import fee in today's environment should be viewed as an appropriate balancing measure to ensure against undue risk on the downside.

* * * *

U.S. OIL OUTLOOK

PREPARED FOR
SENATOR LLOYD BENTSEN
OF TEXAS

BY
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THE UNIVERSITY OF TEXAS
AT AUSTIN

MARCH 1987

U.S. OIL OUTLOOK

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The University of Texas at Austin

EXECUTIVE SUMMARY

The collapse of oil prices in 1986 rapidly led to greatly diminished efforts in exploration and development in the U.S. and loss of substantial volumes of marginal, high-cost production. Total production of oil and liquids was down 900,000 b/d, or 10 percent, the loss concentrated in the onland producing provinces of the lower 48 states. Consumption of petroleum liquids increased 3 percent. Imports increased at a dramatic rate, on par with the rapid increases in the 1970's.

Prices for oil are likely to be between $15 and $18 (in real terms) per barrel for the next two years and thereafter about $22 as the Saudis restore their ability to administer a price judged optimum to them. Unless OPEC and especially the Saudis make major development efforts to expand capacity, demand will begin to lead supply before the middle 1990's. Prices at levels judged to exist over the next few years will translate to a drilling effort of 15,000 oil completions in 1987, rising to about 20,000 by 1990. Such effort, even if largely directed at moderate-cost oil additions from reserve growth in existing fields, will result in average annual reserve additions of about 1.6 billion barrels, 60 percent of the volumes achieved annually in the first half of the decade that allowed stable production in the U.S. lower 48. As a result of foregone drilling and with additional losses in marginal production. U.S. lower 48 production will drop to 6.25 mmb/d by 1990 and 5.50 mmb/d by 1995.

Alaska production of Prudhoe Bay will begin anticipated decline of at least 10 percent annually sometime next year. Some already discovered and partly developed reservoirs will come on line, backing out a part of the Prudhoe Bay decline. Still, Alaska production is projected to decrease to 1.50 mmb/d in 1990 and to less than 1 mmb/d in 1995.

With anticipated prices, total U.S. production of liquids (crude, condensate, and NGL) is projected to fall to 7.52 mmb/d by 1990, only two-thirds of the 1985 level. If consumption increases only at a modest rate of 1 percent annually, U.S. imports of crude and products will reach the 50-percent annual level in two years, and reach 65 percent in the early 1990's. As the level of U.S. imports increases, with loss of production and increases in consumption, excess production capacity in OPEC will be reduced and finally eliminated and demand as in 1979 will begin to lead and to exceed production capacity.

There is ample evidence that the U.S. oil resource base, though explored and developed to an advanced stage, is capable of yielding reserves sufficient to maintain stable U.S. lower 48 production at levels achieved in the first half of this decade and to do so for some 45 years. Substantial undeveloped but discovered reserves exist in Alaska, and despite some disappointments in exploration in recent years, significant volumes of yet-to-be-discovered oil are likely. The deeper offshore areas of the lower 48 states hold promise.

If the U.S. resource base is to be pursued to the extent that production stability and sufficiency are restored and maintained, prices higher than those now existing, or likely to exist over the next several years, are necessary. Real prices on the order of those existing in the first half of the decade are sufficient. But for such prices to obtain, the U.S. must assume responsibility for administering oil prices in its own interest. The economic environment that will permit sufficiency in domestic oil production will also foster development of other domestic energy resources, including renewable energy sources, and for the long term will assure substantial levels of U.S. energy sufficiency and modest levels of import dependence. The alternative to inaction by the U.S. will be a repeat in the early to middle 1990's of the energy problems of the 1970's, and most likely in harsher and more destabilizing terms.

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I.

Introduction

A decade ago, this Nation was seeing declining domestic production of petroleum and increasing dependence on foreign imports. It had lived through the inflation and economic destabilization of one OPEC price shock and was in store for a second one.

Though views differed on how to deal with the problem, all agreed it was a problem to be dealt with and that the increasing levels of import dependence were not in the national interest. As a result, Congress passed extensive energy legislation. Thus, during the first half of this decade, U.S. domestic production in the lower 48 states was stabilized and consumption was reduced through energy efficiencies and alternative energy use. Levels of imports were dramatically reduced, and reliance on imports from the Middle East was virtually eliminated.

But, 1986 brought the massive dumping of foreign oil by OPEC in their effort to regain market share and with such action an unprecedented collapse in oil prices. The major energy effort mounted just a decade ago has been substantially diminished. The largest annual oil production loss in U.S. history was posted in 1986. Imports during 1986 increased at a rate equal to the rapid rises of the 1970's and are within two years of the 50-percent mark, exceeding the heavy dependence of the 1970's.

The hard lessons in energy learned in the 1970's seem to have been forgotten. The major investment made and realized in domestic energy sufficiency is being forfeited. And the trends that led to the severe energy problems of the 1970's have been set in motion again.

II.

Production Stabilization

The higher prices for oil and natural gas that existed during the late 1970's and early 1980's brought forth aggressive drilling. Reserve additions increased and, even in the maturely explored lower 48 states, equalled and even exceeded levels of production. Near-decade-long production decline was arrested in the lower 48 states (Fig. 1). Even in the maturely explored and developed oil provinces of Texas, decline was moderated, and in 1984 and 1985 additions exceeded production (Fig. 2). The magnitude and character of the U.S. resource base and its response to aggressive exploration and development indicate that the stable levels of production that were achieved in the first half of the 1980 decade could be sustained well into the next century.

With higher prices for oil and gas, other energy sources were developed, including renewable and alternative energy sources; with this diversification the historic dependence on petroleum for three-fourths of total energy consumption was reduced to two-thirds. Improved efficiencies in energy use led to substantial decreases in volumes of energy consumed per unit of real GNP. Real economic growth was eventually achieved even with higher energy prices.

Overall net imports of energy, chiefly petroleum liquids, were reduced to half the level of the 1970's; imports from the Arab OPEC countries fell from a 1979 high of 3.0 mmb/d to less than a half million barrels daily in 1985. Imports, which had reached nearly half of the U.S. total supply of petroleum, were reduced to well under 30 percent of total supply. U.S. inflation rates of the late 1970's, triggered to a significant degree by the two OPEC-induced price shocks of the decade, were reduced by two-thirds in the early 1980's.

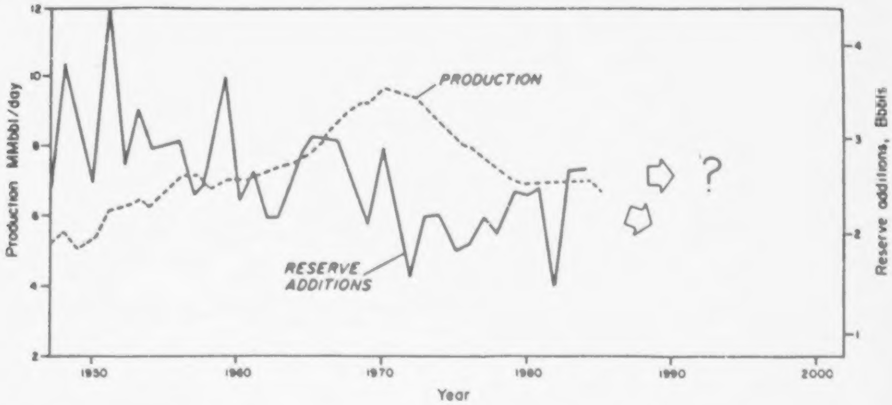

Figure 1. Production and reserve additions of crude oil. U.S. lower 48 (source: TRRC and EIA).

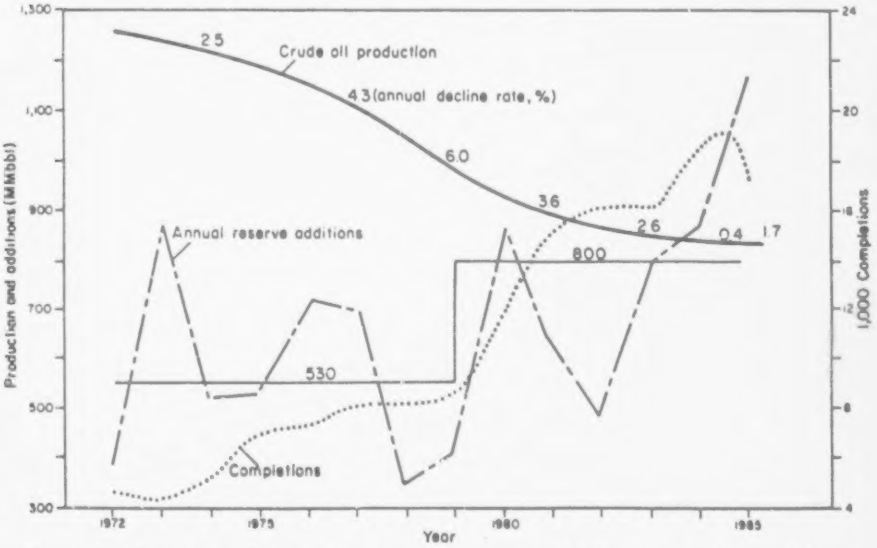

Figure 2. Trends in Texas oil production, reserve additions, and oil completions (source: TRRC and EIA).

The threat to national security posed by high levels of imports and vulnerability to supply disruptions, and the reality of economic destabilization caused by oil-price shocks, were seemingly things of the past.

III.

The Crash of 1986

The events of 1986, however, have drastically changed the world and U.S. energy outlook, and if the current situation is not altered substantially and soon, the conditions of the 1970's will almost certainly be repeated in the early 1990's.

The effect of higher oil prices in the non-Communist world during the late 1970's and early 1980's was to reduce demand by almost 7 mmb/d and to increase production capacity by 6 mmb/d. The U.S. lower 48 in 1985 was producing 2.0 mmb/d of crude oil more than it would have had the declines of the 1970's not been arrested. The substantial excess capacity thus generated in the non-Communist world was absorbed through rather severe production cutbacks by OPEC and particularly the Saudis in an effort to maintain higher world prices. Saudi production at year-end 1985 was less than one-fifth the level of the early 1980's and was directionally heading to zero. In an attempt to recapture market share, the Saudis more than doubled production, flooding the market. This action led in very short order to a fall in oil prices from $27 per barrel in December 1985 to as low as $8 per barrel in the middle of 1986. Since the fall in January of 1986, yearly average prices have been a little less than $15 per barrel. The impact of reduced oil and, correspondingly, natural gas prices has been severe and dramatic. Exploration and development expenditures have been reduced substantially (Fig. 3). The U.S. rotary rig count in the last half of 1986 was only 40 percent of its 1985 count and less than 20 percent of

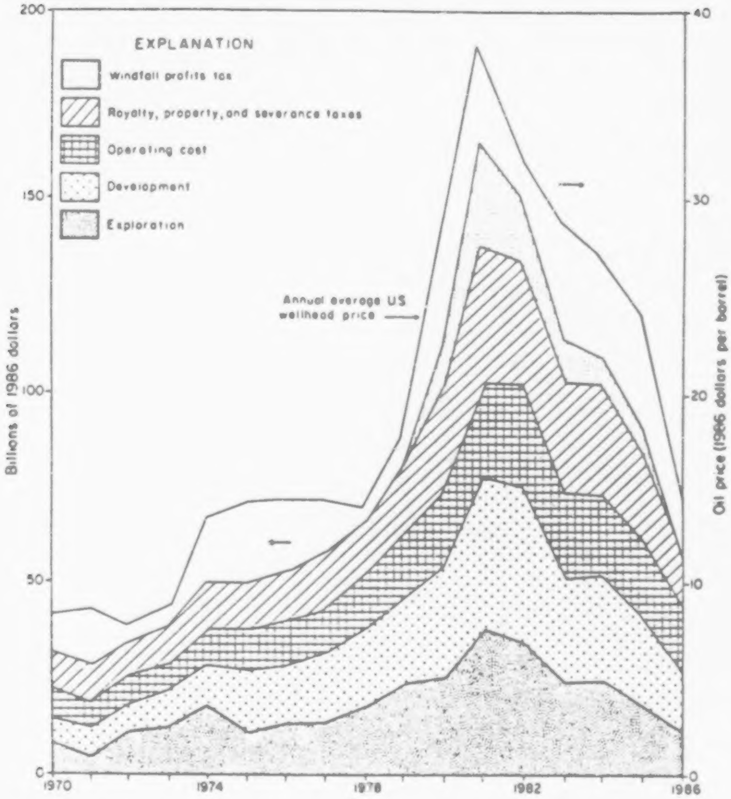

Figure 3. Historical exploration and development expenditures compared with price of oil (source: NPC. 1986).

the level of the early 1980's. Seismic activity in 1986 ran less than half the level of 1985 and a bare one-third the level of the early 1980's (Fig. 4). The loss in oil production capacity has been swift and deep (Fig. 5).

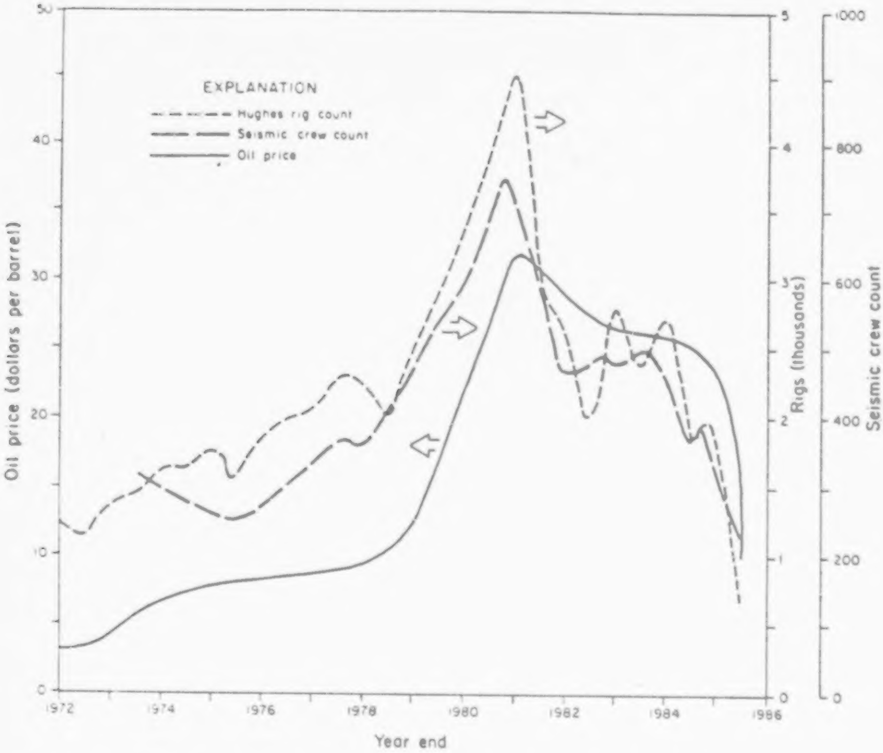

Figure 4. U.S. oil price, seismic crew activity, and rig activity (source: NPC, 1986).

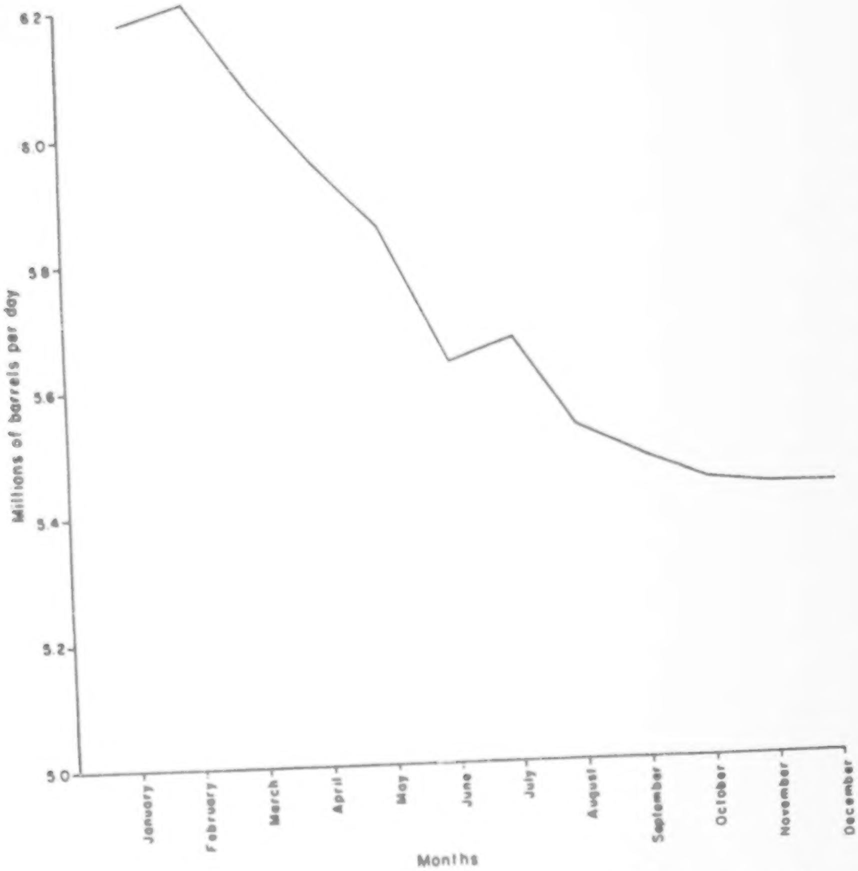

Figure 5. The decline in U.S. lower 48 oil production in 1986 (source: EIA).

IV.

Production Impacts

Estimates differ on the amount and timing but not the direction of the drop in exploration and development activity and the effect it will have on near- and long-term U.S. production. For as certain as the increases in drilling in the late 1970's and early 1980's led to corresponding increases in reserves and stabilization of near-decade-long production declines, the decrease in drilling that was seen in 1986 and that will persist if prices remain low will lead to corresponding declines in reserve additions and, with them, declines in U.S. domestic production. Marginal production will be lost as well. The average of some 10 national projections of 1990 production, made after the fall in prices but before the full impact on 1986 production was reported, and at assumed price levels in the $15-per-barrel range, was 6.5 mmb/d, a full quarter less than 1985 production.

According to estimates from the Energy Information Administration (EIA), and consistent with figures reported by state agencies, average annual production for the U.S. in 1986 was down 300,000 b/d, or 3.4 percent from the 1985 average; Alaska and federal OCS production were steady in 1986.

The year-long loss of production from January through December, as reported by EIA, was 773,000 b/d, a decline of 8.5 percent. Since Alaska and federal OCS production was stable, the whole of the 773,000-b/d production loss was sustained in the onland and state-water areas of the lower 48 states, a year-beginning to year-end drop of 12.5 percent.

Beyond the concentration of losses in onland lower 48 areas, some producing provinces were hit especially hard. Areas of the country where a very large percentage of production is from marginal stripper wells took devastating average annual losses of production in excess of 12 percent and January through December declines in excess of 20 percent. Particularly hard hit was the independent operator country, such as North Texas, Oklahoma, and Kansas, as well as certain Rocky Mountain states. Areas of the lower 48 states where reserve growth from extended conventional development has not been strong in recent years, but where aggressive drilling in the early 1980's had cut decline rates of the 1970's to half, notably the U.S. Gulf Coast onland, took declines of 12 percent or more.

Areas of the lower 48 states where reserve growth had been strong during the 1980's and where reserve growth from existing fields had boosted additions to levels equal to or even higher than production--infill drilling in the Permian Basin of West Texas and steam-flooding in California, as examples--experienced the least, but still notable, impact. California onland and state waters had a January through December decline of less than 10 percent and an average annual decline of just under 4 percent. If the 20,000-b/d mandated production shut-in of Elk Hills is discounted, average annual declines held at only about 2 percent. Texas managed an annual decline of 6 percent, equal to its greatest annual decline of record in 1979. The strong reserve-growth areas of the Permian Basin kept the Texas decline from being much more severe than it was.

About 400,000 b/d of the lower 48 January through December loss was due to foregone drilling. The average annual levels of oil drilling in the latter part of 1986 had fallen to about 40 percent of the average annual levels of the early 1980's, during which time U.S. lower 48 annual reserve additions averaged about 2.5 billion barrels. In simple terms, the January through December drop in drilling would yield a loss on the order of 1.5 billion barrels of reserve additions. With about 10 percent of annual additions going to first-year production, given the high concentration of oil drilling in extended field development, the loss from foregone production in 1986 amounted to a little more than 400,000 b/d. The balance of the U.S. lower 48 loss, an estimated

373,000 b/d, is in the area of either already permanently lost, suspended, or deferred marginal production. A portion of this volume has already been lost because of permanent plugging of wells. If prices stay low, half the amount, 185,000 b/d, will not come back. Some is already permanently lost, and some will be permanently lost over the next few months owing to deterioration in temporarily plugged wells, or to a later decision to plug permanently now temporarily plugged wells because prices did not improve sufficiently to make the wells economic. Of the 773,000-b/d January through December production loss, about 185,000 b/d will come back, at least temporarily.

In short, areas hit chiefly by declines in reserve-growth drilling had less in 1986 production loss than those areas with both loss of drilling and loss of marginal production. All producing areas were hit, but some, and particularly those areas with large concentrations of smaller independent operators, suffered acute losses.

V.

Factors in Future Production Levels

The level of future oil production in the U.S. depends on (1) the amount of exploration and development effort at given price levels and (2) the capability of the U.S. oil resource base to respond to exploration and development. Future price paths are estimated with significant uncertainty. The capability of the resource base can be assessed with greater surety.

VI.

Prices

It is important to recognize that since 1932 the price of oil has been governmentally administered. A free market characterized by widely fluctuating annual and even monthly prices existed during the latter part of the previous century and the first third of this century. During that time oil consumption in the U.S. amounted to only about 500,000 b/d and was only a small part of total energy consumption. As oil consumption began to increase and its use became pervasive, fluctuating and unstable prices and the waste and inefficiencies caused by them were intolerable. By 1932, the Texas Legislature gave the Texas Railroad Commission (TRRC) the authority to set production rates to expected demand levels to avoid waste and to provide for conservation of nonrenewable resources. The Commission adopted the technique of market demand prorationing, specifying the number of days per month a given well could be produced. In such a way supply and demand were balanced in the only manner an uneven-occurring product like oil can be, and prices were stabilized. The price of oil in Texas, with the cooperation of multinational oil companies and the U.S. government, became the world price, and for 40 years it stayed essentially at about $9 in today's dollars (Fig. 6).

The TRRC was able to administer indirectly a stable price for a long period because (1) they chose to administer a low price and thus allowed demand to grow steadily, (2) the State had ample swing capacity relative to what was then modest demand, and (3) most importantly, the bulk of production and consumption of oil was concentrated in the U.S., that is, the price was administered in both a producing and a consuming context.

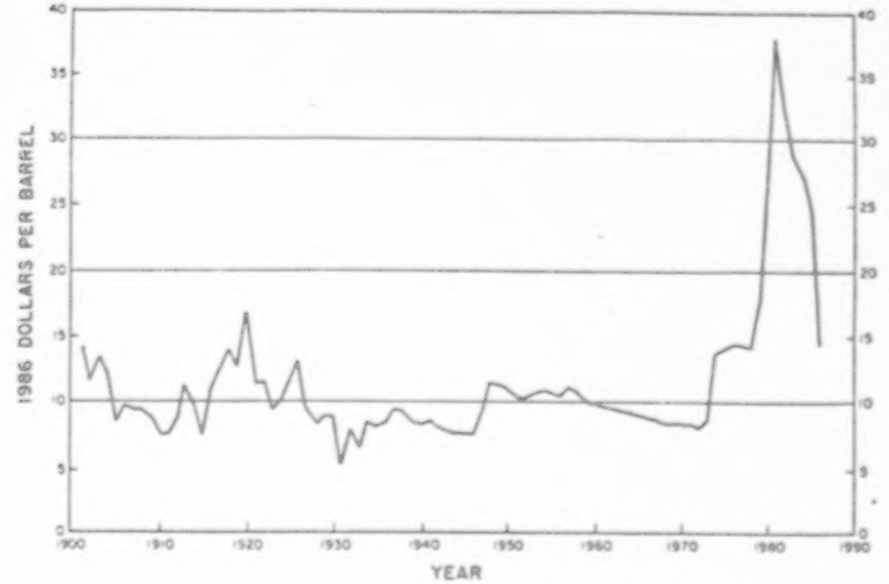

Figure 6. Average annual U.S. crude oil wellhead prices (source: NPC, 1986).

By the end of the 1960's Texas, and indeed the U.S., had lost its swing production capacity as demand began to exceed the ability to produce. On a global scale production capacity still exceeded demand, but the margin was too great for a single governmental entity to administer a price on a unilateral basis. If prices were to be administered, they would have to be administered collectively. OPEC existed as such a collective group. They were able to raise prices in 1973 from about $9 to about $14 (1986 dollars), as world demand was increasing and as U.S. production had peaked and was beginning to decline. The continued decline in U.S. production allowed OPEC not only to maintain the higher price, but also to enlarge production and increase market share, essential ingredients for a disparate cartel to function. With a loss of about 4 mmb/d of capacity with the Iraq-Iran war beginning in 1979, demand suddenly led production capacity and prices soared to an average of nearly $40 (1986 dollars) in 1981. From 1982 through 1985 a price in the range of $27 to $30 was maintained even with a non-Communist world loss in demand of about 7 mmb/d and an increase in production capacity outside of OPEC of 6 mmb/d. Price maintenance occurred primarily because the Saudis assumed the role of swing producer and cut production from peaks as much as 13 mmb/d in the early 1980's to less than 2 mmb/d in the latter part of 1985. Their ability to maintain prices was being lost even without regard to market share. The Saudis' decision in 1985 to recapture market share by doubling production was a governmental action that also resulted in a dramatic collapse of prices. U.S. spot prices ran at $15 or less throughout 1986. Prices have run about $17 to $18 so far this year with seasonal increases in demand, and, critically, with the Saudis returning to a swing role and cutting back nearly 1 mmb/d in production. The current price level will be difficult to maintain over the next few months as seasonal demand slackens unless the Saudis maintain the role of swing producer and further sacrifice market share.

There is in the non-Communist world about 10 mmb/d of production capacity in excess of current demand. Such volume could be accommodated by OPEC, and a price optimum to it could be administered if the price and the allocation of production cutbacks could be agreed upon and enforced. History and the rather diverse character of OPEC suggests such collective administration is not likely.

Rather it seems that an effectively administered price will not be likely until such time as the current excess capacity is reduced. The Saudis have a current sustainable production capacity of about 10 mmb/d; on the assumption that they need or want a minimum market share of 4 mmb/d, the current excess of 10 mmb/d must be reduced to 6 mmb/d in order for the Saudis, with the largest non-Communist world capacity, to administer a price as a swing producer.

Most of the reduction of current world excess production capacity is being and will continue to be accommodated by the U.S., the world's largest marginal producer of oil and the world's largest consumer of oil. In 1986, with a loss of about 900,000 b/d of crude and liquids production and a gain of about 500,000 b/d of consumption, the U.S., at inordinately high cost, contributed 1.4 mmb/d to the reduction of world excess capacity. Given this change in demand and production in the U.S., plus changes elsewhere, the excess capacity in the non-Communist world will most likely be reduced to a level manageable by the Saudis in two to three years. Until that time world prices are likely to fluctuate between $14 and $18 (in 1986 dollars), with the higher end volatile and hence substantially discounted as far as U.S. exploration and production investments are concerned.

If within two to three years the Saudis and OPEC are in a position to administer the price of oil, the central questions will become (1) What price is optimum to them? and (2) How long can they maintain the price?

It is commonly assumed that the OPEC benchmark price of $34 in the early 1980's was established on the judgment that such price was just below the threshold price of synthetic liquid fuel production. That benchmark price obviously proved to be unsustainable not only because it tempered demand to an unanticipated degree, but because it triggered a wholly unpredicated supply response from more marginal but conventional oil resources such as those in the U.S. So it is the expected response of marginal oil resource bases like those in the U.S. as well as assumptions of demand that should be critical to a price administrator like the Saudis seeking to optimize the price of their low-cost production.

The U.S. simply has very little if any capacity to add low-cost production. The few large fields yet to be discovered are either remote or in deep waters or both, rendering them moderate cost at least. The balance of the U.S. resource, as will be discussed under resource capability, consists chiefly of small- to modest-sized fields for discovery, residual oil for enhanced recovery (EOR), and unrecovered mobile oil for extended conventional recovery. The first two elements--small-field discovery and

EOR--are relatively high cost, that is, generally requiring prices in excess of $25 per barrel (1986 dollars) for pursuit and development. The rather large volume of mobile oil still existing in reservoirs ranges from moderate to relatively high cost. A significant part of the moderate-cost mobile oil can be recovered through targeted infill drilling at real prices in the $20 range. However, a large part of the U.S. resource development is foregone at prices below $25, and the amount developed at lower prices, $20 or lower, is far below volumes necessary to sustain production at levels of the early 1980's. Thus, to the extent the economic character of the U.S. oil resource base is weighed, low-cost production would most likely be set in the range of $22 per barrel (1986 dollars). This would allow OPEC to maximize income on low-cost production but not to spur more marginal production that would again cost it market share.

The next question becomes, How long can OPEC, or more specifically the Saudis, maintain a price optimum to them once they are in a position to administer such a price? Such a price would cause continued declines in more marginal production and serve to stimulate demand. On the assumption of a current sustainable OPEC production capacity of 28 mmb/d and a Saudi capacity of 10 mmb/d, along with the anticipated rate in reduction in current excess capacity, the optimum price could be administered for an estimated four to five years, or through about 1993, considering the two to three years necessary for OPEC to get into a position to administer an optimum price.

OPEC holds about 475 billion barrels of booked reserves, 75 percent of the non-Communist world total. The Arab Gulf States, with the Saudis as principal, hold 300 billion barrels. They thus have the base to expand production capacity significantly if they choose to do so. With a dedicated development effort the Saudis could double their production capacity by 1995, and the whole of OPEC could move capacity to more than 40 mmb/d by 1995, and do so chiefly with low-cost oil production.

OPEC or particularly the Saudis could thus administer a price optimum to them for many years, or well beyond the time necessary to essentially eliminate U.S. and other higher cost production worldwide and to establish exclusive world dependence on OPEC, and inordinately on Middle East OPEC, sources. If OPEC and especially the Saudis do not extend their productive capacity, demand will most likely be leading productive capacity by the mid-1990's, setting the conditions for a repeat of the situation of 1979. This could lead to a high-amplitude price cycle like that experienced in the late 1970's and early 1980's.

There are these potential exceptions to the above-described world oil price path: (1) OPEC effectively administers the price on an enforced, collective basis, (2) hostilities in the Middle East grow to the extent that significant production capacity is wiped out or supplies are severely interrupted, or (3) the U.S. takes unilateral action to maintain its own production capacity, that is, the U.S. assumes the role of price administrator.

VII.

Capability of the U.S. Oil Resource Base

Should the U.S. as a matter of policy in its perceived national interest choose steps to maintain U.S. exploration and development, how effective would such action be?

Nearly 3 million wells have been drilled in the search for and development of oil and natural gas in the U.S., making most of the nation's oil and gas provinces among the most thoroughly explored and developed in the world. Onland, at least, nearly all of the very large oil fields have long since been discovered. In the U.S. lower 48 states more than 2.5 billion feet of exploratory hole has been drilled. The first one-half billion feet of that effort yielded 70 percent of the oil and natural gas discovered to date. The balance--about 80 percent of historic drilling effort--has been in pursuit of the remaining 30 percent. By any comparative measure, the oil and gas resources of the U.S. have been explored and exploited to a mature stage. The remaining oil and gas resource is marginal not because it is significantly limited in size but because it can be converted to producible reserves in only relatively small increments.

The early finding of large and giant fields and the later discovery of smaller fields are a discovery pattern shown in oil and gas provinces worldwide. Such is mirrored in the geographic distribution of oil and gas, in which the principal volumes have been found in a very few of the world's largest fields and the balance exists in an extensive universe of smaller fields. It is the few large fields with their ample, flush, and low-cost production that have long dominated the perception of oil as a resource. The peaking of giant-field discovery in the U.S. in the 1950's and of production in 1972 led to the common statistical characterization of oil discovery and production as rather symmetrical life-cycle events. In these characterizations, discovery and production increased exponentially but once in decline would decline exponentially. Discovery and production from the universe of smaller, more marginal fields or increased recovery from older, larger fields would not nor could not change the pattern significantly. Through public policy based on perceived necessity, the maturely exploited oil and gas resource base in the U.S. nonetheless has been pursued and with higher oil and gas prices of the past decade has been pursued aggressively.

The response of the oil and gas resource base to the extensive exploration and extended development during the past decade in the U.S. lower 48 was significantly greater than anticipated. With increased drilling, annual reserve additions that had been generally declining for nearly 30 years began to trend upward at about the same rate as the rate of drilling increase. From 1979 through 1985 average annual reserve additions essentially matched production levels. Oil production decline, which began in 1973 and was almost universally expected to continue, was arrested, and stable levels of production were maintained through 1985, before the drastic fall in prices and drilling effort in 1986. Major supplies in Alaska were developed and came on line in the late 1970's.

Were the increases in reserves and the stabilization of production minor perturbations of the conventionally held symmetrical life-cycle patterns, or did they signal some characteristics of marginal resources not heretofore appreciated? Could the maturely explored oil and gas resource base of the U.S. lower 48 continue, for some extended period, to provide additions sufficient to maintain stable production if it were pursued, say, at a level of drilling experienced in the early 1980's?

Conclusive answers may have to await the return of prices sufficient to prompt again intensive drilling; however, at least two aspects of the recent experience indicate that the capability of the U.S. resource base to sustain production should be reconsidered.

1. The rate of oil and gas finding, expressed in volumes discovered per foot of exploratory drilling, decreases with cumulative drilling but remains stable through extended, and increasingly greater, intervals of drilling. This is in substantial contrast to the conventional assumption that rate of finding declines exponentially with continued drilling.
2. The amount of additional reserve growth available from existing, older, and generally larger fields through extended conventional development and recovery techniques was much greater than expected from historically calculated growth factors.

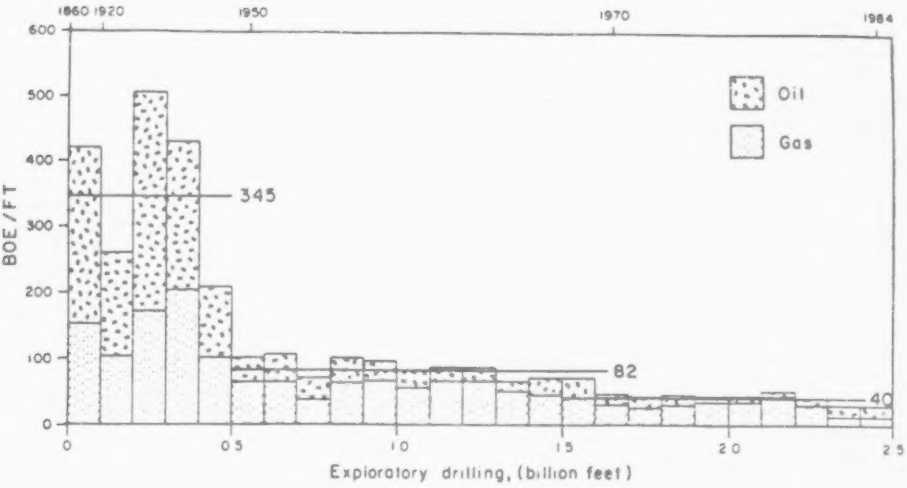

Figure 7. Historical finding rates for oil and natural gas, U.S. lower 48.

New-Field Discovery

Beyond any question the rate of finding for oil and gas generally decreases as exploration effort proceeds. This is simply because in the discovery pattern in most provinces, most of the largest finds are made early. The conventional view held that declines in finding after early large-field discovery would continue at exponential rates. However, plots of finding rates against cumulative exploratory drilling through more than 2.5 billion feet of drilling (achieved in 1985) (Fig. 7) indicate that finding rates decrease through successive stages but that those stages maintain stable rates and extend through progressively greater intervals of drilling effort.

The significance of stable rates of finding, as opposed to exponential decline, is illustrated by recent experience in natural gas discovery. In this case future discovery was projected by extending the exponential decline curve forward from a cumulative

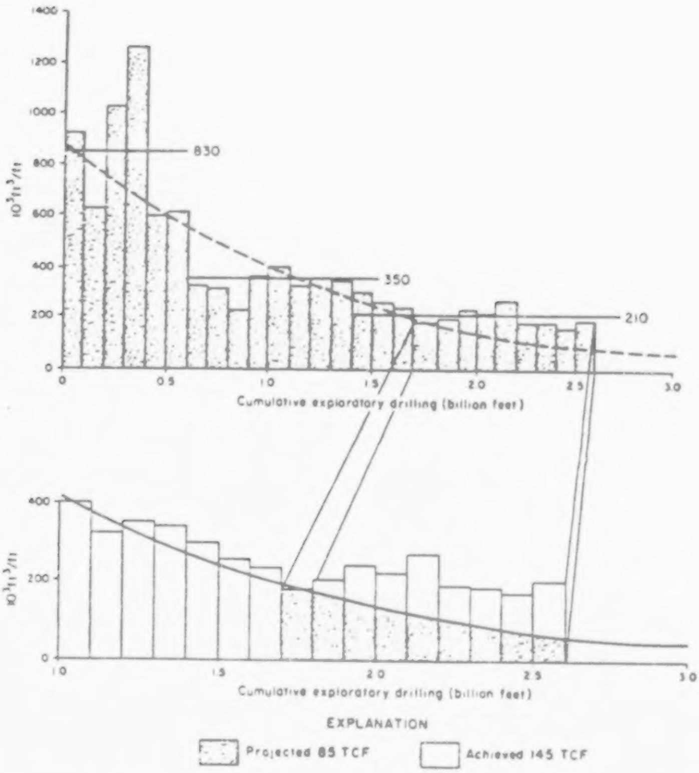

Figure 8. Historical gas discovery rate: actual volumes versus projected volumes assuming exponential decline.

exploratory drilling point of 1.8 billion feet. Such projection indicated discovery of about 85 trillion cubic feet (TCF) of natural gas during the drilling of the next 800 million feet of exploratory hole. The actual volume of discovery from 1978 through 1985, the period of the projected drilling interval, was 70 percent greater than projected because the rate of finding remained stable (Fig. 8).

The second stage of exploratory drilling, with finding rate of about 80 barrels of oil equivalent per foot, persisted through the drilling of about 1 billion feet, twice the extent of the initial increment with discovery of 345 barrels of oil equivalent per exploratory foot. The third stage, with finding rate of about 42 barrels of oil equivalent per foot, has persisted through about 1 billion feet of exploratory drilling and will most likely maintain through a substantial additional exploratory effort.

The calculated stable rates of finding and the observed progressive increases in extent of exploratory stages with successively lower rates of finding tie closely not only to the basic progression of discovery patterns but also to size distribution of fields historically discovered or presumed yet to be discovered. The highest rates of finding are coincident with the initial discovery of large fields; successively lower rates of finding exist as the smaller fields are discovered. The number of discovered fields increases geometrically with decreases in field size. Thus, distinct exploration stages with lower rates of finding develop as the universe of smaller fields is explored and discovered.

The pursuit of marginal, smaller fields has resulted in the discovery of more than 25,000 small fields in the U.S. (Fig. 9). About half of all fields discovered before 1975 held less than 1 million barrels of oil equivalent each. Since 1975, these small fields have represented 85 percent of the fields discovered; nearly 97 percent of all fields discovered in the period contain less than 10 million barrels of oil and gas equivalent.

Statistical analysis indicates the number of small- and modest-sized fields (250,000 to 10 million barrels of oil equivalent) remaining for discovery in the oil and gas provinces of the U.S. lower 48 could be well in excess of 100,000. If the remaining volumes of conventionally recoverable, yet-to-be-discovered resources in the U.S. are on the order of 40 billion barrels of oil and 400 TCF of natural gas, as generally estimated, these volumes along with the likely size distribution of fields yet

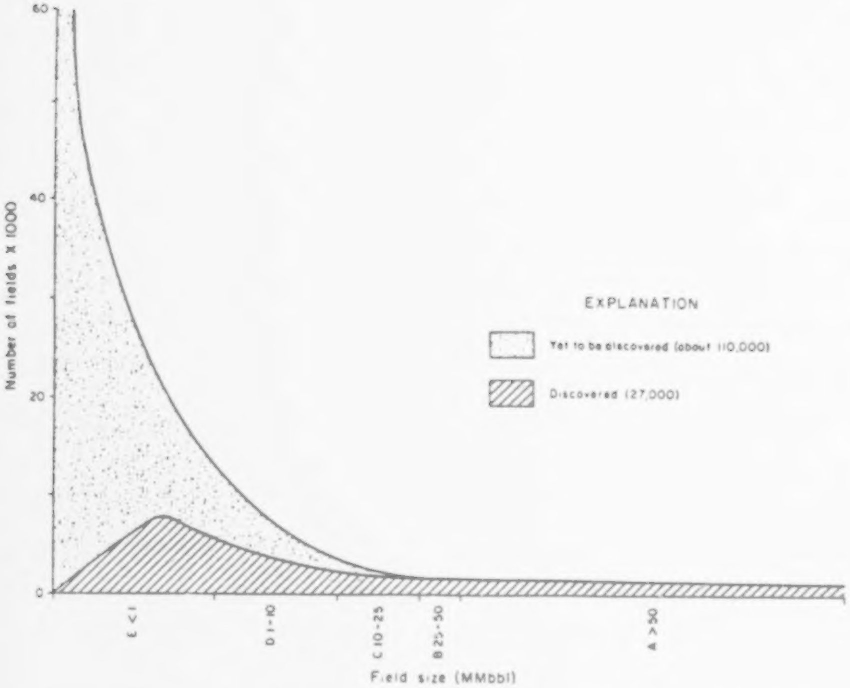

Figure 9. Distribution of discovered and yet-to-be-discovered oil and gas fields, U.S. lower 48.

to be discovered indicate rates of finding of the present exploratory stage will persist through the drilling of an additional 2 billion feet of exploratory hole. The remaining, yet-to-be-discovered oil and gas resources in the U.S. could thus support levels of drilling with finds achieved during the 1970's and early 1980's for a 30-year period. Beyond this stage, a somewhat lower rate of finding, say 15 to 20 barrels of oil equivalent per exploratory foot, could be maintained through several billion feet of additional exploratory drilling, should fields with total reserves of 10,000 to 100,000 barrels be economic to pursue. Economic cutoffs extending to fields of such size would enlarge current estimates of yet-to-be-discovered oil and gas.

The stability of rate of finding and its likely persistence is a critical factor in reassessing the capability of maturely explored resources and expected costs to develop them. The concept of ever-increasing costs to discover is probably inappropriate. Such finding indicates that exploration of an extensively developed resource base can continue to provide recent levels to overall reserve additions. But as critical as new-field discovery is, it has not been a volumetrically major factor in reserve additions in the U.S. lower 48 in recent years, nor is it likely to be in the future. Since the late 1970's, oil discoveries (with appreciation) have amounted to about 500 million barrels annually, with about equal contributions from onland and offshore. These additions have represented only slightly more than 15 percent of annual levels of total production and less than 10 percent of onland, U.S. lower 48 production. And in recent years with reserve additions equaling production, new-field discovery has provided about 15 percent of total additions and about 10 percent of onland additions.

Reserve Growth

As the U.S. resource base has been pursued to an advanced stage, the principal source of oil reserve additions has been reserve growth in older, large fields, rather than new-field discovery. The traditional sources of reserve growth are new-pool discoveries and extension drilling to enlarge areally the boundaries of fields. But, in recent years the principal contribution of oil reserve growth has been intensive drilling within fields, or so-called infill drilling. New-pool discovery and extension drilling remain the principal sources of reserve growth in gas fields, though substantial evidence indicates infill drilling in gas fields could provide a major source of gas reserve growth.

The emergence of infill drilling in older fields as a major source of oil reserve additions in recent years was largely unexpected. The conventional view of oil production was a progression through primary, or initial, recovery to secondary recovery, where water was injected to flood the reservoir. The oil remaining after primary and secondary recovery was judged to be residual, or nonmobile, and additional recovery was possible only through application of costly tertiary techniques to make the oil movable. Infill drilling, it was held, would increase production over a shorter field life but would not add reserves.

The implication of this view, as indeed the traditional assumption that reservoirs are thoroughly drained by the drilling of uniformly spaced development wells, is that reservoirs are essentially homogeneous and that they drain uniformly. Certain reservoirs are indeed quite homogeneous, and where a strong drive mechanism exists, uniform drainage has resulted in very high recovery of original oil in place. The East Texas field is a prime, but also unique, example. With a homogeneous reservoir, a strong water drive and maintained pressure, and a drilling density that averages one well to 4.5 acres, essentially all the movable, nonresidual oil in the East Texas field will be recovered, giving an overall primary plus secondary recovery of 86 percent of the original oil in place. With the volume of residual oil after sweep amounting to 14 percent, virtually all movable oil will be recovered. Much lower recovery factors, however, are the rule, with some reservoirs yielding no more than 5 percent of original oil in place, so that the average recovery efficiency of all reservoirs at the present level of development is only about 35 percent of the original oil in place. Theoretically, if a reservoir is homogeneous and its contained fluids behave uniformly, a specified and uniform spacing of wells should result in uniform drainage, and flooding with either natural water drive or the injection of water in secondary flooding should effectively sweep the entire reservoir, leaving only immobile, residual oil. However, values of residual oil concentrations in swept portions of reservoirs are much lower than volumes estimated to remain and as such imply a much higher recovery efficiency than is in fact generally achieved. For example, residual oil concentration in a swept portion of a reservoir might be an amount equal to 30 percent of original oil in place. If the reservoir were uniformly swept, primary and secondary recovery should amount to 70 percent of the oil in place; commonly the projected ultimate primary and secondary recovery is only 30 percent or less. Forty percent or more of the movable, nonresidual oil is thus not recovered. Analysis of residual oil concentrations in swept portions of reservoirs, original oil in place volumes, and currently expected ultimate oil recovery volumes of the major reservoirs of Texas and the U.S. shows that an average of only about 60 percent of mobile oil originally in place in contrast to the total oil originally in place will be recovered with the existing level of development. This implies that if all reservoirs were thoroughly swept, as the assumption of uniform drainage calls for, average recovery efficiencies of original oil in place should be about 55 percent instead of 35 percent. The percent difference is equal to an impressive 100 billion barrels of oil.

The volume of oil that exists in reservoirs as movable but that will not be extracted with current levels of development is calculated in Texas to be about 35 billion barrels (Table 1) and in the lower 48 states about 80 billion barrels (Table 2). A significant part of these volumes is recoverable at moderate costs.

A primary point is that large volumes of mobile oil remain to be recovered in existing, chiefly older, larger reservoirs. A second basic point is that mobile oil recovery is primarily a function of the extent of macroscopic-scale geologic variations within reservoirs. And a third point is that extraction of unrecovered mobile oil requires only conventional technology. A significant portion of the remaining mobile oil could be recovered systematically by drilling reservoirs on an ever-closer well spacing and completing wells at ever-smaller intervals. But such an approach would require the drilling and completion of an inordinate number of wells, more than could

Table 1 Distribution of discovered oil in Texas as of 1984

	Billion barrels
Original Oil In Place, Discovered To Date	165
I. Mobile oil	90
A. Already produced	47
B. Yet to be produced (proved reserves)	8
C. Mobile oil in unswept zones	35
II. Immobile oil	75
A. Residual oil	60
B. Tar and heavy crude	15

Table 2 Distribution of discovered oil in U.S., as of 1984 (from Lewin and Associates)

	Billion Barrels
Original Oil in Place	488
Cumulative production	136
Proved reserves	28
Ultimate recovery (primary and secondary)	164
Remaining oil in place	324
Immobile residual oil in swept zones	228
Mobile oil in unswept zones	60

Table 3 Composition of Texas oil reserve additions (1973 to 1982)

	Volume (MMbbl)	% of total
I. New-field wildcat discovery with appreciation	650	11
II. Reserve growth from existing fields	5,370	89
A. Extension and infill drilling	4,380	73
B. New-pool discovery	600	10
C. Tertiary projects	250	4
D. Delayed abandonment	140	2
Total	6,020	

be justified economically. Thus, a major goal--the thrust in additional recovery of the large volumes of mobile oil--is the understanding of reservoirs to the extent that conventional drilling and completion technology can be deployed in an effective, targeted fashion.

While the volume of mobile oil is large and the technical basis for its recovery can be put into place, a fundamental question is, How much will actually be recovered? The results of increased field drilling, either by infilling or by extension, over the past few years provide insight. Of the 6 billion barrels of reserves added in Texas from 1973 through 1983, 73 percent came from infill and extension drilling in fields discovered before 1972 and in many discovered as long as 50 years ago (Table 3).

For the 1979 through 1985 period the contribution of infilling and extension drilling to total additions in Texas was nearly 80 percent. Nationally, from 1979 through 1984, 70 percent of total additions came from infill and extension drilling, and if the offshore is excluded from national figures, the percentages are essentially the same as those for Texas. National additions to reserves since 1979 from extended conventional field development amounted to about 2 billion barrels annually. These additions along with those from new-field and new-pool discovery were sufficient to stabilize oil production in the lower 48 states. If only half of the estimated volume of mobile oil is eventually recovered, such volumes would be sufficient to sustain levels of additions and production achieved in the 1979 through 1985 period for 20 to 25 years.

Beyond mobile oil in existing reservoirs the remaining residual oil amounts to one-quarter trillion barrels. Recovery of portions of this volume requires techniques that either alter the character of the reservoir or alter the physical state of the fluid. In either case recovery is more expensive than mobile oil recovery. To date, except for the thermal recovery of heavy oil, largely in California, enhanced oil recovery (EOR) has contributed relatively small increments to reserve additions. Substantial increases in residual oil recovery or EOR require sufficient understanding of microscopic-scale heterogeneity to make the residual oil mobile as well as understanding of macroscopic variations to recover the oil once it is rendered mobile in the reservoir. It thus has a double restraint. However, if one-fourth of the remaining known residual and heavy oil is eventually recovered, that volume would be sufficient to support current levels of U.S. domestic production for 20 years.

The remaining resource of oil in the U.S. is substantial indeed. New-field exploration with current rates of finding can be pursued at the levels of the past few years for at least 30 additional years. Reserve growth from conventional but geologically targeted development techniques can maintain recent production-stabilizing

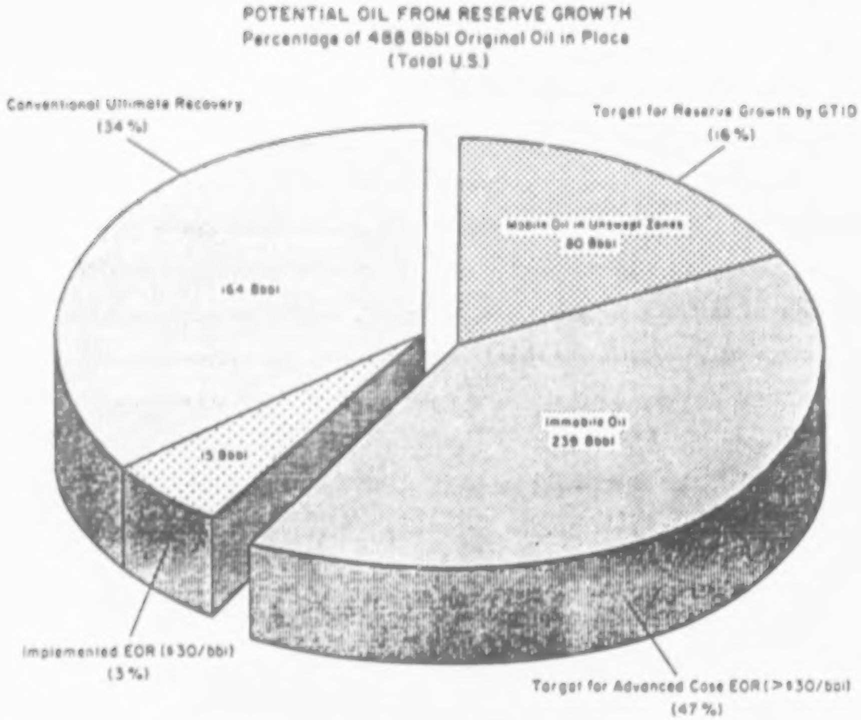

Figure 10. U.S. oil distribution and additional oil recovery from geologically targeted infill drilling (GTID) and enhanced oil recovery (EOR); (modified from Lewin and Associates).

levels of additions for 25 years, with half the remaining volumes recovered. And advanced tertiary techniques, if pursued to the extent that one-fourth of remaining residual and heavy oil volumes could be recovered, would support 1985 levels of lower 48 production for an additional 20 years (Fig. 10). In all, the U.S. oil resource base seems quite capable of providing stable production in the lower 48 states for the next 45 years.

As large as the remaining oil resource base of the U.S. is, most of it can be converted to producible reserves in only relatively small increments. It is thus marginal relative to large-unit-volume low-cost production elsewhere and especially in the Middle East. The substantial volume of unrecovered mobile oil in existing reservoirs constitutes a major, moderate-cost resource and new, small-field discovery is higher cost, but the stability in rate of finding that is apparent means that ever-increasing prices are not necessary to support exploration. Further, the character of the remaining resource makes it particularly amenable to cost-reducing efficiencies available through targeted research and development, and such should be supported at a much enlarged level. Still the resource cannot be developed at prices now existing to the extent that stable U.S. production levels of the first half of this decade can be maintained.

VIII.

Future Levels of U.S. Production

Should the U.S. elect to take steps to maintain domestic oil and gas activity, there is ample reason to believe relatively stable levels of oil production could be maintained well into the next century and at real prices on the order of those existing in the first half of this decade.

If the U.S. chooses not to assume a role in price administration in its own interest and leaves such to OPEC and its principal, the Saudis, the role of the U.S. as a producer will rapidly decline and imports will not only increase but will be concentrated largely in the Middle East.

On the assumption that oil prices stay in the $15 to $20 range (1986 dollars) but volatile in the upper part of the range and hence discounted for the next two to

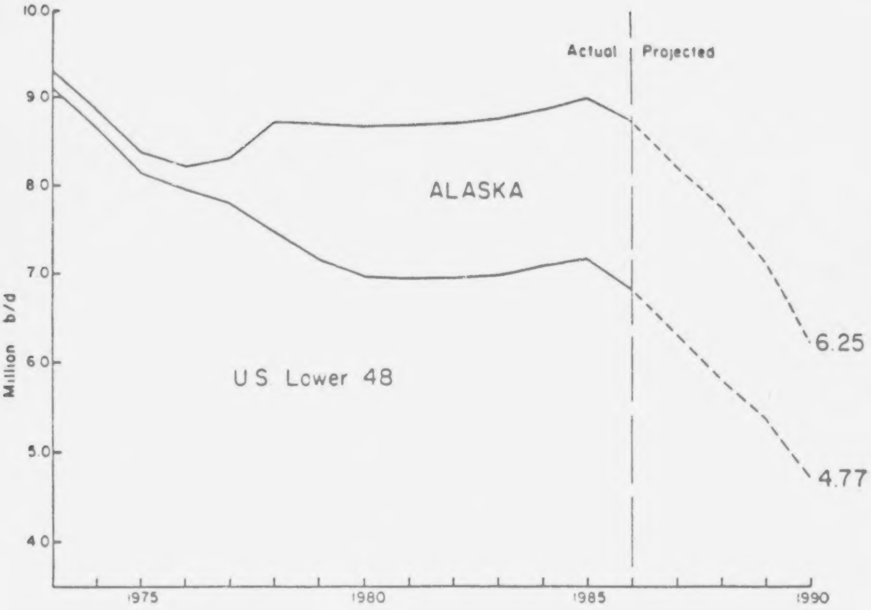

Figure 11 Actual and projected oil production in the U.S. (price assumptions in text)

three years and then stay in the range of $22 per barrel (1986 dollars) for the next four to five years. U.S. production of crude oil will be 6.25 mmb/d by 1990 and 5.5 mmb/d by 1995. U.S. lower 48 production is estimated to be 4.8 mmb/d in 1990 and 4.5 in 1995. Alaska production will drop to 1.5 in 1990 and to just under 1 mmb/d by 1995 (Fig. 11).

Under prices assumed, successful oil completions will fall to about 15,000 in 1987, from an annual average of 19,000 in 1986 and annual average of about 38,000 in the first half of the 1980 decade. Some rebound in drilling is expected with annual completions reaching about 20,000 in 1990 and about 22,000 in 1995. Annual

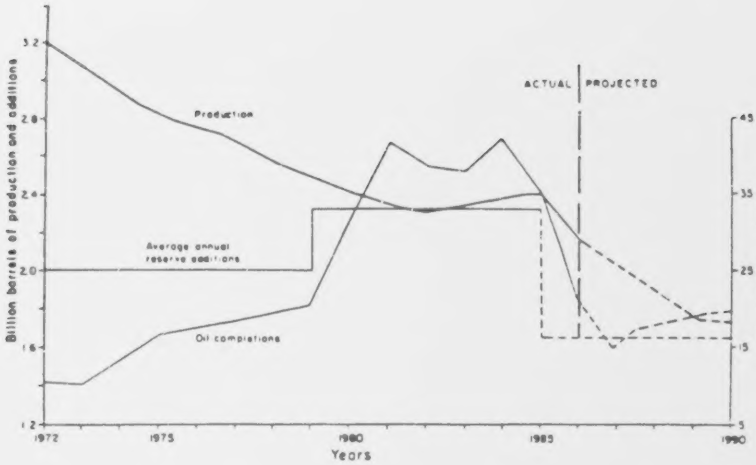

Figure 12. Projected U.S. lower 48 oil production relative to number of completions and reserve additions.

reserve additions will average slightly more than 1.6 billion barrels, or about 60 percent of the average levels achieved in the first half of the 1980 decade. At least 80 percent of additions will come from recovery of additional mobile oil by infill drilling in existing reservoirs, the lowest cost part of the U.S. oil resource base (Fig. 12). About 1.6 mmb/d, or 80 percent of the 2 mmb/d of lower 48 production loss from 1986 through 1990, will come from foregone drilling. Virtually all the loss from 1990 through 1995 will be from foregone drilling.

Of the 373,000 b/d of the total 773,000 b/d of production lost in 1986 in the lower 48 as a result of either already lost, suspended, or deferred marginal production, 185,000 b/d will be lost permanently over the next few months. The balance, about 185,000 b/d, plus an additional 30,000 b/d of marginal production, or a total of 215,000 b/d, will be lost in 1987 through 1990. By 1990 almost all of the most marginal production will be permanently lost.

The production outlook in Alaska must be considered separately. Average annual production in Alaska during 1986 was about the level of 1985. However, the supergiant Prudhoe Bay field is expected to go into normal production decline sometime during 1988. That decline is expected to be at an annual rate of 12 percent, so that through 1990 some 400,000 b/d of current capacity will be lost. Continued decline through 1995 will reduce Prudhoe Bay production to about 780,000 b/d. Under prices assumed, about 200,000 b/d of capacity is expected to be developed from currently discovered but undeveloped reservoirs, giving a 1995 Alaskan production of just under 1 mmb/d.

The overall decline rate in U.S. production, under prices assumed, is expected to average about 6 percent yearly from 1990 and about 3 percent annually from 1990 through 1995. While these rates are severe compared with the stable levels achieved in recent years, some of the Nation's hydrocarbon-producing provinces will be hit inordinately hard. Alaska will lose half its current production level by 1995. In the lower 48 states one-half of total crude oil production is from the Permian Basin of West Texas and New Mexico, California, and the federal offshore. The development of recent offshore discoveries and the strong reserve growth capability of the Permian Basin and the several basins of onland California mean these areas will decline at only about half the overall projected lower 48 rate.

Other provinces like the onland Gulf Coast, where high-efficiency reservoirs have so far spurred only modest reserve growth, will experience losses greater than the projected national average. Areas where discovery, development, and production are in small increments--Oklahoma, North Texas, Kansas, Arkansas, North Louisiana, and much of the Rocky Mountain states--will suffer production loss at about twice the projected national average rate and see 1990 production at half the 1985 level.

IX.

Projected Import Levels

Various projections of demand for petroleum made during 1986 showed about 1-percent annual increase through the balance of the 1980's and into the 1990's Modest increases in the face of lower prices assume that most energy efficiencies effected by higher prices are structural, that U.S. trends away from heavy industry will continue, and that overall economic growth will be modest. However, it should be noted that U.S demand for petroleum in 1986 was 16.2 mmb/d, 3 percent greater than in 1985. This along with production declines puts 1986 average imports at just slightly under 6 mmb/d, or about nearly 37 percent of supply. But, even if increases in demand in 1987 and beyond run only 1 percent, and if natural gas liquid production declines only 4 percent annually (less than the expected natural gas production decline), imports will reach 50 percent of supply during 1989, exceeding the all-time historic high reached in 1977 (Fig. 13).

X.

Impact of Imports

The trends established so firmly in 1986--decreased domestic production, increased consumption, and increased imports--and almost certain to persist with lower oil prices, stand in marked contrast to the situation of stable production, stable demand, and reduced, constrained imports achieved in the period of 1979 through 1985. The trends now in place have a remarkable similarity to those of the 1960's and early 1970's that were to set this nation up to the substantial national security threats and the economic destabilization that occurred later in the 1970's.

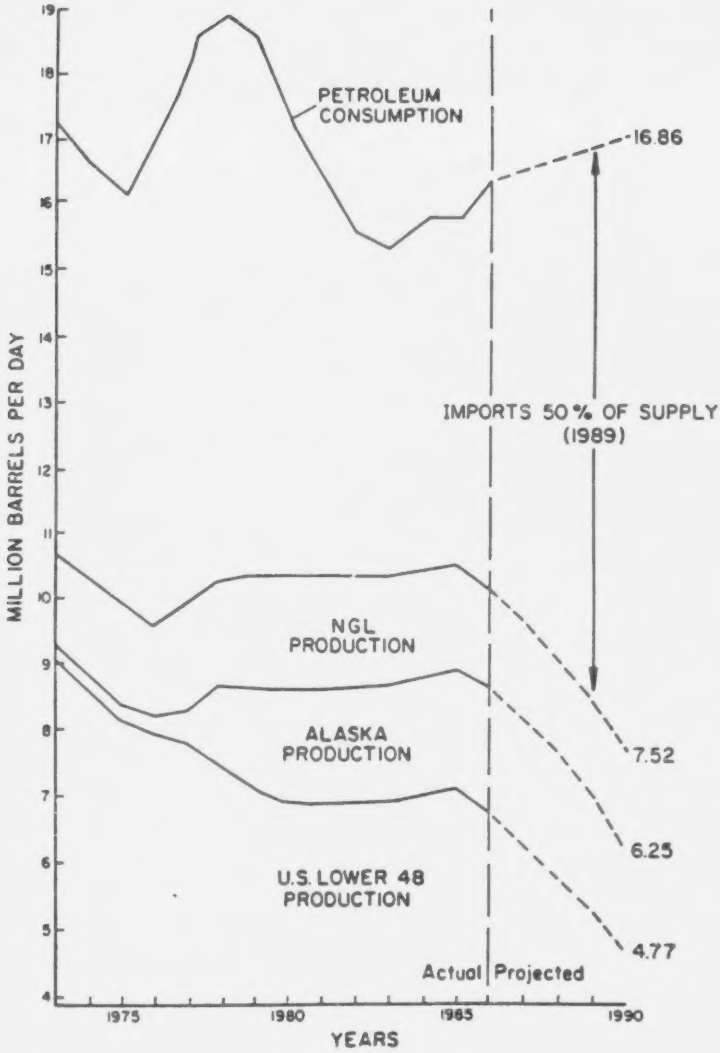

Figure 13. U.S. petroleum production and consumption (projected consumption assumes 1-percent annual increase: projected production assumes prices indicated in text).

The extensive energy debates of the 1970's, it should be remembered, centered not on whether high levels of U.S. oil imports were a threat to national security and economic stability--they were agreed to be--but rather on the means to curb and reduce levels of imports; Congress enacted extensive and expensive legislation to reduce import levels. The energy debate today, to the extent enough interest can be generated to constitute a debate, centers not on whether U.S. production will decline, consumption will increase, and imports will increase. All agree to varying degrees that such will be the consequence of lower prices. Rather the debate is whether high levels of imports constitute a threat significant to warrant substantial action by the U.S.

There are those who argue that the energy world of the 1980's is different from that of the 1970's and that high levels of import dependence in the future would not be a significant threat to national security nor to economic stability; the following issues are commonly cited as the basis of inaction.

1. Countries should do and only do what they do most efficiently. The low-cost oil producer should thus produce oil; higher-cost development and production of the kind so prevalent in the U.S. should be avoided. Oil has no value unless it is produced and sold, and such will assure that the oil-exporting countries will be reliable suppliers. A world of global interdependency is rapidly evolving, and the free market should be allowed to operate. The counterarguments are that factors other than monetary ones are and have always been involved in trade, that most international trade now involves markets controlled by and in intimate partnership with governments, and that, in the case of oil trade, there is no substantial difference now from in the 1970's.
2. To the extent that the U.S. increases its dependence on foreign sources of oil, those sources are now diversified well outside of OPEC and particularly the

Middle East OPEC. Notably cited are sources from Canada, Mexico, and the North Sea. The counterarguments are that most of these current sources were developed in response to higher prices and are relatively high cost and that they are nearly as vulnerable to lower prices as the more marginal exploration prospects and production of the U.S. are. Their ability to expand to meet rising demand and to offset U.S. production declines is very limited.

3. The U.S. now has a strategic petroleum reserve (SPR) with 500 million barrels in stock with incremental additions being made. However, the SPR is expensive and limited at present to less than 90 days' supply at current levels of imports and to no more than half that level of supply with imports at their expected 1990 level.

4. The U.S. through much greater efficiencies in energy use is less intensive of energy use now than in the 1970's, and future oil price shocks would not result in the economic problems created by the price shocks of the 1970's. The counterargument is that whereas energy consumption, especially oil, is now less relative to real GNP than in the 1970's, oil use is still pervasive and yet intensive and that the structure of the U.S. economy makes it as susceptible to price shocks now as in the past, if not more so.

5. The lessons of the 1970's resulted in the introduction of extensive fuel-switching capability, especially between oil and gas in the industrial and utility sectors. Indications are that between 2 and 3 million barrels a day of capacity is now switchable, and future switching capacity might be greater. The counterargument is that the entire volume cannot be realized because some gas can and will always compete with even very low cost oil, but more specifically that the buffeting effect of reversible use assumes that gas, now in ready supply, would also be so in the future. Those looking at underlying deliverabilities of gas and current and recent levels of gas drilling see trends for longer term future gas supply as dismal as those for oil.

XI.

Conclusions

Substantial geologic evidence indicates that the remaining resource base in the U.S. is capable of supporting relatively stable levels of production for the next 40 to 45 years. A significant part of this resource base is moderate cost, and an even greater part is convertible to reserves at real prices on the order of $30 or in the range of those realized in the first half of the 1980 decade. At prices likely over the next seven years or so the U.S. resource base will be developed at only 60 percent the extent necessary to maintain stable production. As a result domestic production will diminish, and rapidly. Little stimulus will exist for development of other U.S. energy resources, particularly higher cost, renewable energy resources and synthetic fuels. As a result the ultimate transition from an oil and natural gas energy base to greater reliance on other resources will not be facilitated. Imports will rise, reaching 50 percent of average annual supply before the end of this decade and exceeding 65 percent, on the assumption of availability, by 1995. U.S. influence on the pricing and availability of a commodity pervasively used and of critical strategic and economic importance will be lost.

The options seem clear. The U.S can provide a significant degree of domestic energy sufficiency at prices on the order of those existing in recent years coupled with a substantial research and development effort designed to reduce costs: exercise of this option will require unilateral action by the U.S. Or the U.S. can enjoy the temporary benefit of lower oil prices and, by inaction, surrender its long-term energy capability.

STATEMENT
of

WILLIAM F. KENNY, III

Appearing on Behalf of

EMPIRE STATE PETROLEUM ASSOCIATION
INDEPENDENT FUEL TERMINAL OPERATORS ASSOCIATION
NEW ENGLAND FUEL INSTITUTE
INDEPENDENT GASOLINE MARKETERS COUNCIL

on
TAX INCENTIVES TO
ENHANCE DOMESTIC OIL PRODUCTION

before the
UNITED STATES SENATE
COMMITTEE ON FINANCE
SUBCOMMITTEE ON ENERGY AND AGRICULTURAL TAXATION

Washington, D.C.
January 30, 1987

I. Introduction

Mr. Chairman, my name is William Kenny, III. I am President of Meenan Oil, based in Syosset, New York. I am pleased to be appearing on behalf of a coalition of petroleum product marketers. This coalition, including the Empire State Petroleum Association, the Independent Fuel Terminal Operators Association and the New England Fuel Institute and the Independent Gasoline Marketers Council, represents the marketers of most of the home heating oil and residual fuel oil from Maine to Florida, and gasoline marketers throughout the United States. A complete description of these organizations is included in Attachment A.

These organizations, and the more than 1,500 petroleum marketers they represent, are firmly opposed to oil import fees, whether in the form of a flat $5 or $10 fee added to the cost of imports, or a variable fee designed to establish a floor price for domestic petroleum prices. These forms of protectionism are inflationary and anti-growth; they are also excessive intrusions of government in the energy marketplace that will likely have serious adverse effects. If it were not for the devastation suffered in the oil producing states during the past year, I believe you would be opposed to such an intrusion as well.

As a matter of tax policy, import fees are regressive and inefficient; the Department of Energy estimates that oil import fees will generate only 7 cents in net revenue for every $1.00 in cost to the economy. Thus, they represent bad tax policy and would not help to reduce the deficit.

Import fees would seriously harm the national economy, and would discriminate against oil consuming sectors and regions of the country, particularly the Northeast. In addition, they would hamper the U.S. competitive position in world trade. Accordingly, import fees are inefficient economic policy.

B Crude oil import fees would create uneconomic incentives to "drain America first", thus depleting the resources needed for a future emergency. Import fees on petroleum products would be even more costly, impairing the competitive viability of independent petroleum marketers, without any benefit to oil producers. These long term adverse impacts far outweigh any short term benefits that such legislation would confer on domestic producers or refiners. Thus, import fees are costly and anticompetitive energy policy. B

From 1973 until 1986, petroleum prices were maintained by OPEC at levels significantly exceeding any cost basis. Over the past year petroleum prices have fallen from these excessive levels. Because of the sharp drop in prices, the independent producing sector and related industries may merit some special consideration to avoid undue hardships and maintain production incentives. However, such special treatment must not be in the form of import protection, which deprives Americans of a choice of competing fuels and suppliers, as well as the benefits of economic growth, higher employment, and lower inflation that falling oil prices have already begun to provide. Such special treatment must not force U.S. energy prices to levels above our competitors in world markets. It must not unfairly favor independent refiners over independent marketers. And such special treatment must not be based on illusory deficit reduction that takes as much revenue from the Treasury as it provides.

Action must be taken to restore the domestic producing sector, but this action must not involve control of petroleum prices. We learned in the 1970's that government could not efficiently regulate the maximum price of petroleum. It will be equally difficult, and create comparable unfairness, if government regulates the minimum price of petroleum.

Petroleum marketers are an integral part of our industry. We need strong and thriving domestic refiners and producers; we also need a secure supply and a competitive price. Accordingly, we support use of the tax code to guarantee a strong domestic producing and refining sector. We support elimination of the Windfall Profits Tax, expansion of depletion and full deductions for actual costs. In addition, in the non-tax arena, we support substantially increased oil purchases for the Strategic Petroleum Reserve, both from domestic producers and from Mexico; and prompt development of the enormous domestic reserves on the Arctic Coastal Plain.

I also speak as a member of the broader Energy Tax Consumer Coalition which includes more than 25 organizations representing petroleum consumers, including airlines, truckers, chemical companies, utilities, petroleum marketers and public interest groups. This coalition also stands united against increased energy taxes or fees, and will remain so. A copy of a letter [illegible] sent to the President last year by this Coalition is included as Attachment B.

I urge this Committee to direct its attention to modifications in the Tax Code designed to increase profitability and cash flow for independent producers, and to avoid proposals to establish a minimum price for petroleum through fees. Oil import fees create major imbalances among industries and regions, and are seriously regressive. Accordingly, such proposals polarize the petroleum industry and the nation as a whole; and they will divert the energies and attention of this Committee, and the Congress generally, from serious plans to assist domestic producers, such as S.233, that merit immediate consideration.

II. Oil Import Fees Would Seriously Harm the Economy

A. Adverse Macroeconomic Effects

Oil import fees protect the domestic oil and gas industry at an enormous cost to the economy. Studies of the macroeconomic impact of fees or tariffs on imported crude oil uniformly conclude that the national economy would suffer substantial losses. There is no doubt that economic growth would be impeded; it is estimated that a $10 fee would cause a decline in GNP from 1.0 to 2.6 percent.[1] Equally certain, unemployment would increase by up to 600,000,[2] and inflation would increase by up to 2.6 percent.[3] The precise magnitude cannot, of course, be projected, but the conclusion is clear: an oil import fee will impose a substantial drag on the U.S. economy.

The magnitude of this drag is not lessened by the decline in the price of crude oil. Last year's decline in oil prices does not reduce the burden to the economy from oil import fees; it simply alters its absolute and psychological effects. Whether the price of crude oil is $8 or $18 or $28 per barrel, a $10 oil import fee will eliminate 1 to 2 percent of GNP growth, and add 1 to 2 percent to the rate of inflation.[4] Moreover, such a fee will create a price shock to all consumers, since product prices already have declined. A $10 imports fee will increase prices for oil products and competing fuels by about $.24 per gallon.

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[1] *See* Consumer Federation of America, "The Energy, Economic and Tax Effects of Oil Import Fees" (October 25, 1985), Table ES-1 at p. iv, included as Attachment C ("CFA Study"). For the purposes of macroeconomic analysis, it is irrelevant whether a $10 fee is imposed entirely on crude oil, or partly on crude oil and the remainder on petroleum products. The critical fact is that petroleum product prices would rise by about $10 per barrel, or $.24 per gallon.

[2] *See* Attachment C.

[3] This inflation impact is measured by the change in the Consumer Price Index. *See* Attachment C.

Just as oil import fees burden the economy, decreases in oil prices produce a substantial positive effect on growth. The decline in crude oil prices in 1986 kept inflation to its lowest level in decades, and helped to spur further declines in interest rates. American consumers are now enjoying the benefits of lower oil prices in their home heating oil bills and at the gasoline pump. By increasing oil prices to 1985 levels, an oil import fee would rob the economy of this powerful engine for growth, which may be the most positive economic force in more than 20 years.

B. Minimal Deficit Reducing Effects

Oil import fees would not only inhibit growth induced by falling oil prices, but would also counteract the deficit reducing effects of falling oil prices. Proponents of oil import fees greatly exaggerated the favorable impact on budget

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4/ Thus, if falling oil prices help to generate GNP growth of 4 percent, an oil import fee would reduce the growth rate to 2-3 percent. If GNP were only expected to grow by 1 percent without an oil import fee, the fee will likely cause a recession. In fact, each of the seven major oil price increases since World War II has been followed within nine months by a recession.

reduction. Those who claim that a $5 oil import fee will generate $8 billion in revenue include only its direct revenue impact; they fail to consider the lost revenue to the Treasury from slower growth and the substantially greater government expenditures caused by higher oil prices.

In 1983 and 1984, studies on this subject were conducted by the Department of the Treasury, the Department of Commerce, and the Congressional Budget Office. Each concluded that the U.S. economy would benefit significantly from a decline in oil prices, and that the federal deficit would be reduced substantially. The Treasury analysis concluded that a 40 percent decline in oil prices would reduce the annual deficit by $6 billion to $10 billion and a 24 percent decline would yield an annual saving of $4 billion to $5.5 billion.[5] CBO stated that "a sizable and permanent decline in oil prices would have a very favorable effect on inflation and on economic growth in the United States, and would significantly reduce the projected baseline budget deficit. . . ."[6] CBO calculated that a permanent $8 per barrel reduction in oil prices would reduce the unified budget deficit by a cumulative total of $129 billion over five years.7/

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[5] Treasury Department Interagency Study of Falling Oil Prices. Chapter II, p. 2 (1983) See Attachment D.

[6] CBO, "Economic and Budgetary Consequences of an Oil Price Decline -- A Preliminary Analysis" (March 1983) at p. 1. See Attachment E.

The precise effect of falling oil prices on the budget deficit from 1987 to 1991 is impossible to project. But the direction and order of magnitude of these effects are clear: lower oil prices generate significant increases in taxes, and reduce federal outlays that are directly related to oil prices and that are tied to a cost of living escalator. Oil import fees would eliminate these benefits. In short, oil import fees will contribute little if anything to deficit reduction, and may actually increase the federal deficit.

C. Inefficiency of Oil Import Fees as a Tax

1. Windfall to Producers

The fundamental reason why oil import fees contribute so little to deficit reduction is their inefficiency. Oil import fees tax only oil imports, which are less than 40 percent of total U.S. oil consumption, and less than 16 percent

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7/ *Id*. at pp. 16-17. *See* Attachment E. Significantly, declines in oil prices below $20 per barrel will generate substantially greater deficit reduction effects than declines above $20 per barrel, which were analyzed by CBO and Treasury. Declines above $20 produce a significant loss of windfall profit tax revenues to the federal Treasury, while declines below $20 produce almost no loss to the Treasury from windfall profit tax revenues. *See* Crude Oil Windfall Profit Tax Act of 1980, P.L. 96-223, I.R.C. Sec. 4989. Thus, the deficit reducing effects of a decline in oil prices from $25 to $15 per barrel would be substantially greater than the effects of a decline from $30 to $20 per barrel.

of total U.S. energy consumption.[8] However, because oil imports are the marginal sources of oil in the U.S., the price of oil imports establishes the price for domestic production of crude oil and natural gas liquids. Therefore, consumer prices for all oil products increase by approximately the amount of the fee. However, the Treasury obtains revenue only from the portion that is imported, and possibly from increased windfall profit taxes on domestic production.[9] Accordingly, the predominant portion of the increased consumer expenditures for oil flow to domestic producers, not the federal Treasury. As a result of this effect, the Energy Information Administration estimates that for every dollar in cost to the economy from oil import fees, only 7 cents would be raised in net revenues.[10]

2. Increases in Federal Outlays

Oil import fees, or energy taxes, are also inefficient because of their effect on federal outlays. Every analysis of oil import fees concludes that such outlays will increase substantially. Primarily, outlays will increase for petroleum products and related purchases, particularly by the Department of Defense; for programs with benefits indexed to a cost of living adjustment; for interest payments; for unemployment insurance; and for low income energy assistance. The Treasury analysis concludes that a reduction in oil prices of $8 per barrel will result in a $10 billion annual decline in federal expenditures;11/ the CBO analysis projects savings of $110 billion over 5 years from a similar $8 decline in oil prices.12/ In summary, the combined effects of oil import fees on federal revenues and expenditures demonstrates its gross inefficiency as a revenue raising measure.

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[8] Petroleum accounts for about 40 percent of total U.S. energy consumption. See, e.g., DOE/EIA State Energy Data Report (May 1986) at pp. 14-20.

[9] Windfall profit taxes do not apply to most production below $20 per barrel, and do not apply to any production currently below $18.35 per barrel.

[10] See Energy Information Administration, "The Impact of Lower World Oil Prices and Alternative Energy Tax Proposals on the U.S. Economy" (April 18, 1986).

D. Trade Effects of Oil Import Fees

Some proponents have suggested that oil import fees would produce significant benefits to the U.S. balance of trade. To the contrary, an oil import fee would not significantly reduce the U.S. trade deficit because it would create serious trade problems for many U.S. industries. Petroleum imports accounted for approximately $48.3 billion of the U.S. trade deficit in 1985. Oil impact payments were $75.6 billion in 1981; Since that year, the petroleum component of the U.S. import bill has declined from 28.9 percent to about 14 percent. Clearly, the massive increase in the U.S. trade deficit has not been caused by

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11/ See Attachment D.

12/ See Attachment E.

oil imports. If no protectionist action is taken by the Congress, and the recent reduction in world crude oil prices is not immediately reversed, there will be further substantial reductions in the bill for petroleum imports in 1986, probably on the order of $15-20 billion.

However, if oil import fees are enacted, the U.S. will impose on its domestic industries energy prices that are significantly higher than those paid by the rest of the industrial world. This differential will place a severe competitve burden on all energy intensive U.S. industries, such as chemicals, agriculture, steel, wood and paper products, mining and plastics. These industries will be subject to greater import penetration, and will have much greater difficulty competing in foreign markets.

The competitive damage to these industries would more than likely offset any modest reduction in the trade deficit resulting from decreased oil imports.13/ These are the industries on which we must depend to restore a positive U.S. balance of trade.

14/ If an oil import fee reduced the level of oil imports by 10 percent, for example, the trade deficit would decline by about $3.5 billion.

III. Oil Import Fees are Unsound Energy Policy

A. Oil Import Fees Will Result in Uneconomic Production of Oil

It is impossible to quantify the cost of production for domestic oil and gas, because the cost varies from field to field and well to well. For this reason, any import fee or price floor will provide windfalls to some producers and deny profitable production to others.

However, it is certain that establishment of any price floor for domestic crude, or imposition of any import fee, will lead to production of domestic oil and gas that is not economic in the current environment. In effect, it would create incentives to drain America first. In the short run, this may decrease oil imports; but in the long run, this premature production will injure U.S. national security.

There is no energy security basis for increasing domestic crude oil production today. The world is awash in oil. U.S. import sources are secure and diverse. The principal suppliers to the U.S. include Mexico, Canada, the United Kingdom, Venezuela, Nigeria and Indonesia. These are the countries that have made the investments and commitments that have created the surplus in world crude markets and have helped to reduce our dependence on Arab OPEC; yet these are the countries that would be injured most by a U.S. oil import fee.

Accordingly, oil import fees will drain U.S. reserves at a time when there is no security threat; these reserves will be unavailable five or ten or twenty years from now when the world oil market may present a threat, and these reserves, if available, could then be used to prevent or temper supply shortages. Thus, overproduction today could lead to energy security problems in the future.

B. There is No Basis for a Higher Import Fee on Petroleum Products

1. Effect of Fees on Petroleum Products

If Congress determines that import fees on crude oil are necessary, despite their gross inefficiency and adverse effects, an equivalent fee should be placed on all imported products, rather than a higher fee on products. Without an equivalent fee, there is an incentive to import products that are less expensive than products refined domestically. However, there is no legitimate basis for fees on imported products significantly higher than fees on imported crude. Such a differential would seriously injure competition in the petroleum market by imposing tremendous barriers to product imports.

If higher fees are placed on imported products, the effect on consumers would be the same as higher fees on all petroleum imports, since the price of all domestically refined products would rise to the price of the marginal import. Thus, a fee of $5 per barrel on imported crude oil, and $10 per barrel on imported petroleum products, would create the same macroeconomic burdens as a fee of $10 per barrel on imported crude oil. However, even less revenue would be raised than from a fee of $10 on crude oil. In addition, a differential fee on crude oil and products would split the windfall to the domestic industry between producers and refiners, thereby diminishing the revenues that could be used by producers for exploration and development.

An import fee differential of $5 per barrel would provide the domestic refining industry with a revenue increase of about $70 million per day, amounting to about $25 billion per year. A comparable windfall would be bestowed on the natural gas industry, which competes with petroleum products, not crude oil. An import fee differential of $3 per barrel for petroleum products would generate approximately $15 billion in additional revenues for refiners.

2. Refiners Do Not Need Protection from Imports

Domestic refiners have not demonstrated the need for protection from imports, particularly on such a massive scale. In fact, imports of petroleum products in 1986 were lower than the levels of product imports during almost every year of the 1970's, and were below the levels of 1984. Other than residual fuel oil, the highest national import penetration for any petroleum product in 1986 was 7.4 percent for distillate.

IV. Rebates to Heating Oil Consumers Will Not Work

Proposals for import fees sometimes purport to provide an exemption, or a rebate, for fuel oil used in home heating. We, as heating oil marketers, know that these schemes will not effectively eliminate the burden that oil import fees would place on the nation's 14 million home heating oil consumers. Moreover, any such program is destined to result in a complex scheme of exemptions and entitlements that creates more problems than it solves. The complex, regulatory bureaucracy required to administer the oil price control program under the Emergency Petroleum Allocation Act of 1973[14] should serve as a lesson to those who think any program of price supports can be implemented simply and effectively.

It is illusory to exempt imported home heating oil from import fees and expect that heating oil prices will not rise. On an annual basis, less than 200,000 barrels per day of heating oil is imported, yet winter distillate consumption averages well over 3 million barrels per day. Most of the home heating oil used on the East Coast is domestically refined and therefore will reflect the increased cost of domestic crude oil.

Moreover, if heating oil is exempt from import fees, much greater amounts would be imported, because the cost of domestically refined product would have to reflect the higher price of crude oil in the U.S. Domestic refiners would, to the extent possible, curtail production of distillate. However, it is highly unlikely that imports could supply nearly all of the demand for heating oil, because the increased demand from offshore refineries would increase the price of these imports. Ultimately, heating oil imports would increase, domestic refiners would suffer and heating oil prices would increase to reflect the fee on domestic crude oil.

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[14] 15 U.S.C. Section 751 et seq.

It is also impossible to require refiners to pass through the fee on products other than home heating oil. This form of cost allocation was tried, and failed, in the 1970's under the Emergency Petroleum Allocation Act. Even if it were possible, it would require a comprehensive scheme of refiner pricing regulation.

In addition, it is impractical to provide tax refunds to home heating oil consumers. Refunds through the income tax system would fail to cover many of the poor and elderly who do not file returns, and could miss millions of renters completely. Moreover, there will be reluctance on the part of Congress to provide refunds to oil heat consumers but not to consumers of other fuels for home heat and other essential users.

Finally, even if it were possible to hold heating oil consumers harmless, there will be other sectors and industries that claim, and may merit, special protection. For example, to avoid discrimination against the Northeast, industrial and utility consumers of residual fuel should be exempt, as should manufacturers of petrochemicals for export. Any system of exemptions or rebates will require a regulatory bureaucracy, much like the one that was dismantled in 1981. This is a high price to pay for eliminating gross inequities, yet it will be necessary if import fees are imposed.

V. Tax Incentives are Needed to Spur Production

U.S. oil production declined in 1986, and will continue to decline indefinitely, unless substantial new incentives are provided. The National Petroleum Council ("NPC") projects that U.S. production will decline from 8.9MMBpd in 1985 to 8.0 MMBpd in 1990 and 7.0MMBpd in 1995, assuming high petroleum prices.[15] Clearly, price supports will not reverse this decline; but tax incentives that help to ease the loss from unproductive development will encourage independent investment, and ultimately create additional production.

Our basic tax provisions governing oil and gas development were last modified in 1979, when the energy climate was very different from today. Oil producers were reaping large windfalls that resulted from OPEC's massive increase in the world price of oil. Price incentives provided more than adequate economic encouragement to all possible development.

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[15] NPC, __________ (______, 1986).

These price incentives are no longer available, and the consequence is a massive decline in new well development and exploration budgets. It is time to restore the tax incentives for production that existed before 1973, and increase the cash flow available to independent producers. Domestic producers can no longer earn windfalls, by any reasonable standard. Accordingly, the Windfall Profits Tax should be repealed. In many cases, domestic producers cannot even earn any profit. Thus, current deductions are meaningless. Modifications must be made that permit independent producers to deduct costs from prior or future earnings.

In addition, property owned by independent producers should receive the same tax treatment, whether or not that property was previously owned by an integrated major. Congress should repeal the "transfer rule" that prohibits percentage depletion and exemption from windfall profits tax, simply because the producing property is purchased from a major. Independent producers need these incentives to develop existing properties and generate the cash flow needed to develop new properties.

Congress should also take steps that would directly stimulate cash flow for independent producers. S.233 contains several such provisions, including repeal of the limit on use of percentage depletion to 50 percent of the income of a property; repeal of the recapture rule for intangible drilling costs; and modification of the deduction for geological costs to permit expensing, rather than capitalization of these costs. We as independent marketers support enactment of these provisions.

VI. Conclusion

From 1973 to 1981, the U.S. sought to control the maximum price of crude oil and petroleum products. The experience was a dismal failure, acknowledged by most of its proponents. It did not insulate the U.S. from higher world oil prices, but it did create enormous distortions and inequities among producers and consumers, some of which were rectified by complex regulatory and entitlement programs. This experience will be repeated if the U.S. seeks to control the minimum price for crude oil and petroleum products through import fees.

Even if questions of equity and administration could be resolved without complex regulation, which is unlikely, the system would not work. Oil has become a commodity, and to control the prices of any commodity, one must control production.

Without the ability to control production, and hence the world price, there is no basis on which to predict the burdens that an import fee or a floor price would impose on the U.S. economy. At the levels proposed, U.S. energy costs could be twice that paid by the rest of the world. The harm to the U.S. competitive position in world trade could be enormous.

Equally important, there is no sound reason for denying to the American economy and its consumers the benefits of lower oil prices that will be enjoyed by the rest of the industrial world. These benefits will not only spur investment, employment and growth, they will also lead to substantial reductions in the federal deficit.

As with any commodity, oil prices will be cyclical and unpredictable, and hence investment is risky. Action must be taken to guarantee continued investment in domestic production. Special tax treatment for oil production is one necessary component, in recognition of this risk and as an incentive to explore and produce. In addition, energy security should be enhanced by continuing to build the Strategic Petroleum Reserve, which provides our best defense against any possible interruption of imports in the future; and by commencing development of the Arctic Coastal Plain, which could maintain Alaska's production for decades to come.

Thank you.

ATTACHMENT A

COALITION OF INDEPENDENT MARKETERS

The Empire State Petroleum Association represents the independent gasoline distributors and home heating oil marketers of New York State.

The Independent Fuel Terminal Operators Association is comprised of 16 companies which own and control terminals capable of receiving ocean-going tankers. None is affiliated with a major integrated oil company. Members of the Association are independent marketers of No. 2 fuel oil, No. 6 fuel oil, gasoline and other petroleum products.

The Independent Gasoline Marketers' Council is a trade association of non-branded independent retailers of motor gasoline. Counsel members operate groups of retail stations under their own brand name and operate in 45 of the 50 states.

The New England Fuel Institute is an association of more than 1,100 independent retail and wholesale home heating oil distributors throughout the six New England states.

ATTACHMENT B
Page 1 of 2

February 21, 1986

President Ronald Reagan
The White House
Washington, DC 20500

VIA MESSENGER

Dear President Reagan:

The undersigned associations and organizations--representing a broad range of consumer, labor, agriculture, transportation, environmental, manufacturing, utility, and small business interests throughout the nation-- are unanimous in their long standing opposition to additional energy taxes, including fees, as a means to raise revenues. We believe that such taxes are inflationary and inequitable.

The economic benefits to the nation of lower energy prices include lower inflation, higher economic growth, lower interest rates, strengthened foreign trade and increased opportunity for individual enterprise. These benefits should not be undercut by a new tax. We hope that you will continue to oppose any new energy taxes.

Sincerely,

Air Transport Association
American Boiler Manufacturers Association
American Trucking Associations
Chemical Manufacturers Association
Citizen/Labor Energy Coalition
Consumer Energy Council of America
Consumer Federation of America
Council of Industrial Boiler Owners
Edison Electric Institute
Empire State Petroleum Association
Independent Fuel Terminal Operators Association
Independent Gasoline Marketers Council
Independent Petroleum Association of America
National Coal Association
National Consumers League
National Council of Senior Citizens
National Farmers Union
National Grange
New England Council
New England Fuel Institute
Northeast Coalition for Energy Equity
Owner Operator Independent Drivers Association of America

ATTACHMENT B
Page 2 of 2

- Pennsylvania Petroleum Association
- Petrochemical Energy Group
- Petroleum Marketers Association of America
- Portland Cement Association
- Society of Independent Gasoline Marketers of America
- The Society of the Plastics Industry, Inc.
- Travel Tourism and Government Affairs Policy Council
  - American Automobile Association
  - American Bus Association
  - American Car Rental Association
  - American Hotel and Motel Association
  - American Recreation Coalition
  - American Sightseeing International
  - American Ski Federation
  - Association of Retail Travel Agents
  - Conference of National Park Concessioners
  - Gray Line Sight-Seeing Association
  - Highway Users Federation
  - Hotel Sales Management Association International
  - International Association of Amusement Parks & Attractions
  - International Association of Convention & Visitor Bureaus
  - National Air Carrier Association
  - National Campground Owners Association
  - National Caves Association
  - National Council of Area and Regional Travel Organizations
  - National Council of State Travel Directors
  - National Council of Travel Associations
  - National Restaurant Association
  - National Ski Areas Association
  - National Tour Association
  - Recreation Vehicle Industry Association
  - Travel Industry Association of America
  - United States Travel Data Center
  - United States Tour Operators Association
- United States Chamber of Commerce
- Union Carbide

cc: The Honorable Thomas P. O'Neill, Jr.
The Honorable Robert Dole
The Honorable Bob Packwood
The Honorable Pete V. Domenici

ATTACHMENT
Page 1 of

Consumer Federation of America

THE ENERGY, ECONOMIC AND TAX EFFECTS OF OIL IMPORT FEES

OCTOBER 1985

TABLE ES-1

ESTIMATED ECONOMIC IMPACTS OF IMPORT FEES

(In Percent)

SOURCE OF ESTIMATE	SIZE OF FEE	GNP CHANGE	CPI CHANGE	UNEMPLOYMENT CHANGE
Wharton a/	$5	-1.3	+1.3	na
CBO b/	$5	- .5	+ .5	+.2
DOE/DRI c/	$5	- .5	+ .5	+.3
CRS d/	$5	- .9	+ .5	+.3
Historical Record	$10	-1.7	+ .7	+.5
DRI e/	$10	-1.4	+ .7	+.5
CBO b/	$10	-1.2	+ .9	+.4

SOURCES:

a/ Wharton Econometric Associates, *Long Range Forecast* Business Week, April 5, 1982.

b/ Congressional Budget Office, *Oil Import Tariffs: Alternative Scenarios and Their Effects* (Washington, D.C.; April, 1982).

c/ U.S. Department of Energy, *Economic Impact of an Oil Import Fee* (Washington, D.C.; March 19, 1982).

d/ Congressional Research Service, *Revenue and Macroeconomic Impacts of an Oil Import Fee: A Brief Review.* (Washington, D.C.; April 6, 1982).

e/ Press accounts.

ATTACHMENT C
Page 2 of 3

TABLE ES-2

ESTIMATES OF REVENUE LOSSES AND NET REVENUES FROM AN IMPORT FEE

	PERCENT OF TOTAL INCREASE IN THE OIL AND GAS BILL			$10 FEE (Billions)
	CONSUMER ENERGY COUNCILa/	CONGRESSIONAL BUDGET OFFICEb/	DEPARTMENT OF ENERGYc/	
TOTAL BILL	100%	100%	100%	$72
GROSS REVENUE	54	54	54	39
REVENUE OFFSETS	22-30	13	36	10-27
NET REVENUE	21-31	40	17	12-29

SOURCES:

a/ Consumer Energy Council of America, *A Comprehensive Analysis of the Impact of A Crude Oil Import Fee: Dismantling a Trojan Horse* (Washington, D.C., April, 1982).

b/ Congressional Budget Office, *Oil Import Tariffs: Alternative Scenarios and Their Effects* (Washington, D.C.: April, 1982).

c/ U.S. Department of Energy, *Economic Impact of an Oil Import Fee* (Washington, D.C.: March 19, 1982).

ATTACHMENT C
Page 3 of 3

TABLE ES-3

SOURCES OF IMPORTS INTO THE UNITED STATES SINCE THE OIL EMBARGO

(Thousand Barrels Per Day)

YEAR	TOTAL		OPEC	ARAB	CANADA	MEXICO	UNITED	OTHER
	CONSUMPTION	IMPORTS		OPEC			KINGDOM	NON OPEC
1973	17308	6256	2993	915	1325	16	15	465
1974	16653	6112	3280	752	1070	8	8	340
1975	16322	6056	3601	1383	846	71	14	300
1976	17461	7313	5066	2424	599	87	31	353
1977	18431	8807	6139	3185	517	179	126	590
1978	18847	8363	5751	2963	467	318	180	484
1979	18513	8456	5637	3056	538	439	202	548
1980	17506	6909	4350	2551	455	533	176	491
1981	16508	5996	3323	1848	447	522	375	534
1982	15296	5133	2146	854	482	685	456	627
1983	15231	5051	1862	632	547	826	382	701
1984	15726	5437	2049	819	630	748	402	902
1985	15577	4817	1612	434	772	829	293	835

NOTE: The 1985 imports are the average of the first five months annualized.

SOURCE:

U.S. Department of Energy, Monthly Energy Review (Washington, D.C.; August, 1985) pp. 42-43.

DEPARTMENT OF THE TREASURY
CHAPTER II: ECONOMIC
IMPACT ON THE UNITED STATES

ATTACHMENT D

Addendum

Economic Impact of a $25 Per Barrel Price of Oil

The preceding analysis is based on a $13 drop in the world market price of oil to $20 per barrel. If the price of oil drops only $8 to $25 a barrel, the economic impact obviously would be smaller than that estimated for an oil price of $20 per barrel. Using an analytic framework that parallels the preceding one, a price reduction of $8 per barrel would yield a transfer of about $15.6 billion from foreign oil producers to U.S. users of oil. Part of this $15.6 billion would be spent on additional oil imports, i.e., about 1 million barrels per day or $10.4 billion, leaving $5.2 billion available for the purchase of domestic goods and services. This $5.2 billion would be an increment of about .15 percent to nominal GNP unless offset by reduced purchases from the United States by oil producing nations.

In addition to the transfer of income from foreign producers, an $8 reduction in the price of oil would transfer $30 billion of income from domestic producers of crude oil to domestic users. In total, the approximately $35.2 billion that would be available to the nonoil sectors of the economy would represent slightly less than 1 percent of GNP at the level two years from now.

The direct effect of the drop in oil prices on the overall level of prices for domestically purchased goods and services would be to lower it by about 1 percentage point or slightly more than the increase in real domestic output. To this would be added perhaps another 0.6 to 0.7 percentage points for the effects of lower oil prices on the costs of producing other goods and services. Finally, secondary effects through escalator clauses, etc., might tend to widen this further, but these effects would tend to be undone as real nonoil production expanded toward capacity.

If the price of oil drops $8 a barrel, leading to a real GNP increase of about 1 percent, there could be a modest reduction in the unemployment rate of perhaps 0.4 to 0.5 percentage points. This would translate into higher employment by about 400,000 to 500,000 persons.

The effect of an $8 or 24 percent decline in oil prices would reduce the budget deficit by approximately $4 billion to $5.5 billion. This deficit reduction would be the net effect of a reduction in tax receipts of $4.7 billion to $6 billion and a reduction in outlays of about $10 billion.

ECONOMIC AND BUDGETARY CONSEQUENCES
OF AN OIL PRICE DECLINE -- A
PRELIMINARY ANALYSIS -- MARCH 1983

CONGRESSIONAL BUDGET OFFICE

ATTACHMENT E
Page 1 of 2

Effects on the Federal Deficit

Permanently lower oil prices would have significant effects for projected federal budget deficits over the next five years. While the net reduction from the CBO baseline deficit projections would be quite small in 1984, it would increase to as much as $31 billion by 1988 under the $6 per barrel lower price scenario.

The net effect of lower oil prices for federal revenues would be relatively small throughout the five-year projection period (1984-1988). Gross windfall profit tax collections would be lower as shown in Table 5. Substantial reductions in domestic crude oil prices would mean that some domestically produced oil would no longer give rise to any windfall profit tax liability. Lower inflation would also reduce federal revenues, but this would be more than offset by revenue gains derived from greater real growth in the economy. As a result, the net effect of the economic changes portrayed in Table 4 on federal revenues would be modest. Relative to CBO's baseline projections, federal revenues would be $10 to $13 billion higher in 1988 under the lower oil price scenarios.

The net effect of lower oil prices for federal outlays would be greater than for revenues because all of the economic changes would work in the same direction. Projected cost-of-living adjustments for Social Security and other indexed benefits would be smaller as a result of lower inflation. Lower interest rates would reduce net interest costs. Lower inflation and unemployment would also reduce projections for other benefit programs such as food stamps, assistance payments, Medicare, and Medicaid. In addition, projections for federal employee pay raises and for nondefense discretionary spending would be somewhat lower. Finally, lower oil prices would reduce the cost of oil purchases by the Defense Department and for the Strategic Petroleum Reserve (an off-budget spending program). As shown in Table 5, the net outlay reductions of a $6 per barrel lower oil price would grow from $6 billion in 1984 to $21 billion in 1988.

It should be emphasized that the favorable effects of the petroleum price reduction on the federal deficit result from the assumed stimulation of real economic growth. If real growth does not accelerate in response to the oil price decline (for example, if it is neutralized by changes in monetary policy), then the budget effects would be much less favorable.

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Page 2 of 2

TABLE 5. BUDGET DEFICIT EFFECTS OF ALTERNATIVE LOWER OIL PRICE PATH
(Changes from baseline projections, by fiscal year, in billions of dollars)

	1984	1985	1986	1987	1988	Cumulative Five-Year Total
Oil Prices $4 Lower:						
Windfall profit tax (gross)	1	1	1	1	1	5
Other revenues	-4	-6	-7	-11	-14	-44
Indexed benefits and unemployment insurance	*	-2	-2	-3	-3	-10
Interest costs	-1	-2	-2	-3	-5	-13
Other outlays	-1	-1	-1	-1	-1	-5
Total Deficit Effects	-6	-10	-12	-17	-22	-66
Oil Prices $6 Lower:						
Windfall profit tax (gross)	3	3	3	3	3	15
Other revenues	-3	-5	-5	-10	-13	-36
Indexed benefits and unemployment insurance	-2	-4	-5	-6	-7	-25
Interest costs	-4	-5	-7	-7	-9	-32
Other outlays	-1	-3	-4	-4	-5	-17
Total Deficit Effects	-6	-14	-17	-23	-31	-94
Oil Prices $8 Lower:						
Windfall profit tax (gross)	6	5	5	4	4	24
Other revenues	-4	-5	-6	-12	-17	-44
Indexed benefits and unemployment insurance	-2	-6	-8	-10	-10	-38
Interest costs	-5	-7	-9	-11	-13	-45
Other outlays	-2	-4	-6	-7	-8	-27
Total Deficit Effects	-7	-17	-24	-36	-43	-130
CBO Baseline Deficit	201	211	227	247	268	1,152
Oil Prices $4 Lower	195	201	215	229	246	1,086
Oil Prices $6 Lower	194	197	209	222	236	1,059
Oil Prices $8 Lower	194	194	203	211	222	1,023

* Less than $500 million.

CMA
CHEMICAL MANUFACTURERS ASSOCIATION

WRITTEN STATEMENT OF

THE CHEMICAL MANUFACTURERS ASSOCIATION

BEFORE THE

SUBCOMMITTEE ON ENERGY REGULATION AND CONSERVATION

OF THE

COMMITTEE ON ENERGY AND NATURAL RESOURCES

OF THE

UNITED STATES SENATE

REGARDING S. 694, INCORPORATED AS

SECTION 232

INTO S. 490

THE OMNIBUS TRADE ACT OF 1987

JUNE 2, 1987

2501 M Street, NW • Washington, DC 20037 • Telephone 202/887-1100 • Telex 89617 (CMA WSH)

I. Introduction

The Chemical Manufacturers Association (CMA) appreciates this opportunity to comment on S. 694, a bill that has been added to the Senate Trade Bill (S. 490) as section 232. CMA is a nonprofit trade association whose member companies account for 90 percent of the productive capacity for basic industrial chemicals in the United States. The member companies of CMA have a vital interest in S. 694 because of its potential impact on the supply and cost of oil. In addition, the Bill will inevitably affect the cost of other energy sources, such as natural gas. Natural gas is an alternative to some oil uses, and is also widely used in the chemical industry.

Although S. 694 does not specify the steps that the President must take if oil imports are projected to exceed 50 percent, the most likely response would be to impose a fee, tax, or quota on oil imports. These are the few measures that will ensure a cap not be exceeded. CMA is concerned that a fee, tax, or quota would increase costs for oil and natural gas for chemical manufacturers, other industries and consumers in the United States. This places U.S. industry at a serious competitive disadvantage with foreign competitors. CMA recommends that the Senate look for alternate ways to assist U.S. energy production.

II. Concerns with S.694

CMA is concerned that S. 694 will raise the costs of oil and natural gas. For chemical companies, oil and natural gas are sources of both energy and raw materials. Oil and gas costs are 25 percent of final product costs for chemicals, which is the highest of any manufacturing sector. Any increase in oil and gas costs causes a significant increase in production costs. If oil and gas costs are increased, U.S. chemical companies will be at a competitive disadvantage with foreign producers. Because U.S. production costs would be higher, our products would be less competitive in both domestic and foreign markets.

The petrochemical sector of the chemical industry would be particularly hard hit if oil and natural gas costs were to increase. For some basic petrochemicals, the cost of oil and natural gas as sources of raw material and energy are in the range of 75 percent to 85 percent of production cost. The cost of production for these basic petrochemicals increases greatly when the cost of oil and natural gas increases. Petrochemicals are also subject to very strong competition from foreign manufacturers. Any measures that would raise the cost of oil and natural gas in the United States would give an even greater advantage to foreign manufacturers of petrochemicals. The attached graph (Figure 1) shows that the petrochemical sector has born most of the decline in the chemical industry balance of trade. The strong competition from foreign manufacturers is expected to continue, as pointed out in the Department of Commerce report U.S. Industrial Outlook 1987- Chemicals, "Shipments are not expected to increase as much as petrochemicals demand ... because low-priced imports will continue to be a major factor in the U.S. market in spite of the weaker U.S. dollar."

The negative impact of increased energy prices in the United States is not limited to the chemical industry. An increase in the cost of oil and natural gas affects all users -- the chemical industry, other industries, and consumers. In addition to this direct impact, industrial and consumer customers of the chemical industry may decrease consumption of chemical products when faced with higher energy costs or may pay higher prices for chemical products. In either event, higher oil and natural gas costs slow down the entire economy. For example, a recent study on energy security by the Department of Energy (DOE) found that a $10 per barrel fee on oil imports would reduce U.S. GNP by $30 billion to $45 billion per year; cause inflation to increase by 2 or 3 percentage points; and cause the loss of 400,000 jobs. Over the next decade, the DOE study estimates that a $10 per barrel fee could impose cumulative costs of $200 billion.

The Senate should also consider the impact of higher oil and natural gas costs on the balance of trade -- the chemical industry in particular and the United States' in general. Last year, the chemical industry had a positive balance of trade of $7.8 billion. Any measures, administrative or legislative, that would raise oil and natural gas costs in the United States would lower the chemical industry's positive contribution to the trade balance. As mentioned above, higher oil and natural gas costs would adversely impact other industries, and harm U.S. competitiveness at a time when the $170 billion deficit of 1986 is a critical national concern. Measures taken to enhance domestic energy production should not place U.S. manufacturing industries at a competitive disadvantage by raising oil and natural gas costs in the United States above oil and natural gas costs in foreign countries.

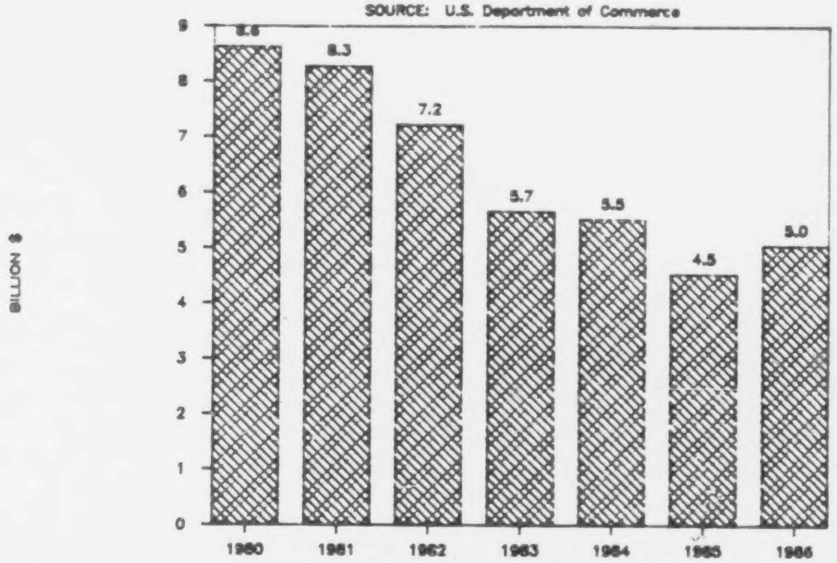
III. Conclusion

Although CMA shares the concern of Congress for adequate and secure energy supplies, CMA believes that Congress should not enact measures that put U.S. industry at a disadvantage with our foreign competitors. A tax on imported oil will raise the costs of U.S. oil and natural gas consumption above world market levels, and, consequently will have an impact on the U.S. economy far greater than the Federal revenues raised by the tax.

FIGURE 1

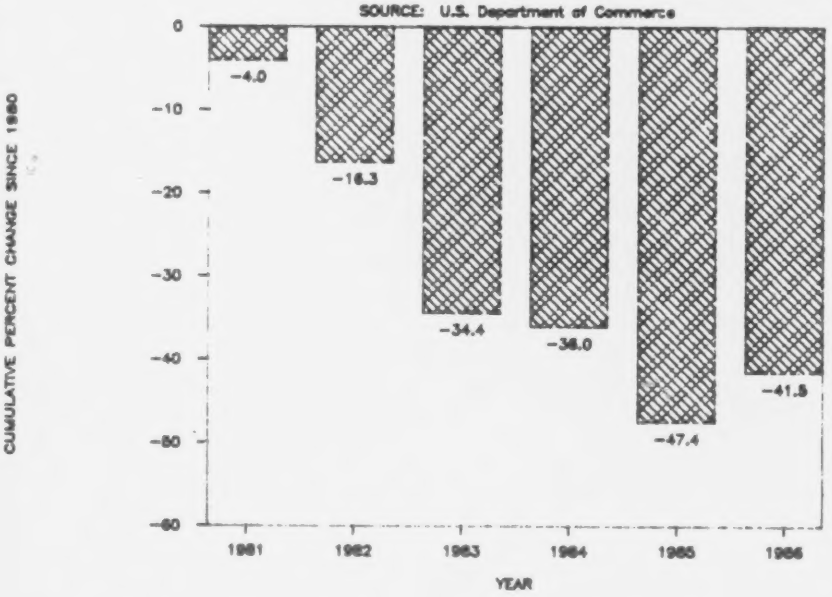
PETROCHEMICAL TRADE BALANCE SINCE 1980

SOURCE: U.S. Department of Commerce



PETROCHEMICAL TRADE BALANCE

SOURCE: U.S. Department of Commerce



Statement of
Ford Motor Company
Senate Subcommittee on Energy Regulation and Conservation
Hearing on S.694

As a manufacturer of cars and trucks, Ford Motor Company is affected importantly by U.S. energy policy. We have a number of concerns regarding S.694, but are confining these comments to the committee record to the provision in Section 5 that concerns improved fuel efficiency for automobiles.

When automotive fuel efficiency standards were first implemented under the Energy Policy and Conservation Act (EPCA), gasoline prices were controlled and there was not a wide variety of fuel-efficient vehicles from which a consumer could choose. Today, the conditions are far different.

Now that gasoline prices are decontrolled, car buying decisions are closely tied to the price of gasoline. For example, in 1979-80 when oil supplies were threatened and fuel prices soared, the average fuel economy of all new cars sold in the U.S. increased to a level 4 mpg over the standard. The sudden change primarily reflected an abrupt consumer shift toward smaller cars and engines.

The basic intent of EPCA has been accomplished: the average fuel economy of all cars sold in the U.S. today exceeds 27.5 mpg. There are nearly 100 small car models with a metro-highway fuel economy of 30 mpg or more from which the consumer can choose. And, today's Ford Crown Victoria has twice the fuel economy of its 1975 counterpart and better fuel economy than the smallest car Ford produced in 1975.

Oil import levels will not be appreciably reduced by increasing the automotive fuel economy standards.

- Industry lead time requirements would not permit a manufacturer to make the kinds of product changes necessary to improve its fleet average fuel economy within the three years specified in the bill. To achieve a significant improvement in fleet average fuel economy would require a manufacturer to substantially redesign all its products -- a process that takes up to five years for each product line.

- The amount of additional energy conservation that would result from higher fuel economy standards would be minimal. For example, a one mpg increase in the fuel economy of the average car from the present levels would reduce U.S. oil consumption by only about one tenth of one percent annually.

- By comparison, the annual reduction in fuel consumption due to the replacement of older vehicles now in operation is some 25 times greater, or 3 percent annually. This means that by the year 2000, fuel consumption for the U.S. vehicle fleet will be reduced 25% from today's levels, without any additional legislative authority or regulation.

- Consumers have no additional incentive to shift to smaller, more fuel efficient vehicles than their needs would otherwise demand in the absence of substantial fuel price increases. Dramatic increases in the fuel efficiency of larger cars has greatly improved their desirability. They are no longer the 8-10 mpg gas guzzlers, but now achieve 23-24 mpg.

The marginal benefits of increasing fuel economy standards have to be weighed against the substantial costs to consumers and the domestic automobile industry.

- Given today's technology, it is not possible for manufacturers to meet higher standards and still offer consumers a full range of small, mid-size and larger cars and trucks. If fuel economy standards were to be increased, U.S. manufacturers could not satisfy today's demand for a full line of products while still providing the level of comfort and function that consumers want and need.

- Higher standards could force domestic manufacturers to restrict the production of larger vehicles and engines, as well as require major new investments in products and technology at a time when it is vital to improve cost competitiveness with foreign manufacturers. Ironically, these market needs might be met instead by foreign competition. Japanese and Korean producers are developing and beginning to introduce products in the mid-size and larger segments that have traditionally been the strength of U.S. domestic manufacturers. These foreign manufacturers would not face EPCA restrictions on larger cars and engines because of credits built up from years of predominantly small car production. Further, foreign manufacturers have the additional flexibility of averaging together vehicles built in the U.S. and abroad. In fact, EPCA's two-fleet requirement acts as a disincentive to foreign manufacturers to increase their U.S. content.

Ford believes that fuel economy is well established as an important consumer purchase consideration and that the market will continue to demand competitive fuel economy in all market segments. We urge Congress not to enact any legislation that would have the effect of increasing the fuel economy standards.

NATIONAL STEEL PRODUCERS ASSOCIATION
1055 Thomas Jefferson Street, N.W., Washington, D.C. 20007
(202) 342-1160

James F. Collins
President

June 9, 1987

The Honorable Howard M. Metzenbaum
Chairman
Subcommittee on Energy Regulation and
Conservation
Committee on Energy and Natural Resources
United States Senate
212 Hart Senate Office Building
Washington, DC 20510

Dear Mr. Chairman:

We respectfully submit the enclosed statement for the record of the hearing on S. 694, the Energy Security Act of 1987, conducted by your Committee on June 2, 1987.

Sincerely,

J. F. Colli

J. F. Collins

Enclosure
JFC/glw

Statement of

National Steel Producers Association

on

S. 694, Energy Security Act of 1987

to

Subcommittee On Energy Regulation and Conservation

Committee on Energy and National Resources

United States Senate

June 2, 1987

The National Steel Producers Association, a steel trade group representing several non-integrated domestic steel producers, is submitting this statement on S. 694, the Energy Security Act of 1987. S. 694 would establish an automatic mechanism under which the President could limit petroleum imports to a level from 0 to 50 percent of U.S. consumption, without further action by the Congress. S. 694 would require the President to act to prevent the projected level of imports from exceeding the pre-determined limit set. This action would take effect unless Congress enacted a law within 90 days, modifying the proposed action. The action would also take effect without assessing its impact on the economy. The only criterion for Presidential action would be the projected level of oil imports.

The NSPA strongly opposes this energy policy legislative provision. In our judgment it would inevitably result in the imposition of import fees or quotas on imported oil. The steel industry is concerned since it is one of the most energy intensive industries in the United States. Various experts estimate that energy costs of domestic integrated steel producers amount to about 15 percent of their total costs, and that minimill energy costs run about 13 percent of total costs. Oil import fees would therefore aid U.S. oil producers at a substantial cost to all segments of the U.S. steel industry, and at an enormous additional cost to the U.S. economy. We estimate that an import fee of $5.00/barrel would cost the U.S. steel industry an additional $275 million annually, not a wise public policy step in light of the U.S. Government's desire to attain a world-competitive, self-sustaining domestic steel industry.

Any increase in oil prices will have a ripple effect on the cost of other forms of energy. A $5.00/barrel oil import fee could cause national gas (barrel equivalent) prices to increase about $3.75. The impact on the U.S. economy would be devastating. Data Resources (U.S. Review March 1987) says that:

> Mounting federal expenditures would eventually turn the oil import fee into a net revenue drain: the federal deficit would shrink $12 billion in 1987 and $1 billion in 1988, but then widen $19 billion in 1989-91.

DRI states further that:

> An oil import fee, however, would be far more inflationary than a higher motor fuels tax. This higher inflation, in turn would lower real GNP by $178 billion -- twice the impact of the motor fuels tax levy . . . . Each dollar of revenue collected from an oil import fee would thus increase the government deficit by 17 cents; each dollar of revenue from a motor fuels tax would narrow the deficit by 11 cents.

Instead of supporting policies which would injure the U.S. economy and increase energy costs of U.S. manufacturing industries, U.S. energy policies should facilitate access by American companies to energy supplies at competitive costs. This includes competitive access to the transportation of natural gas and wheeling of electric power directly to consuming manufacturing facilities.

This raises a question. Why in the face of such an obvious negative economic impact, should the United States wish to impose an oil import fee rather than a motor fuels tax, if indeed it must impose any energy tax at all? The answer of proponents is that an oil import fee will provide national energy security. What they do not add is that, currently, the United States is far more able to withstand an interruption in imports than in 1979 and 1973. The Strategic Petroleum Reserve, now contains nearly 520 million barrels in oil. Moreover, more than 38 percent of U.S. oil imports come from Venezuela, Canada, and Mexico, countries that are relatively secure sources of supply. Only 19 percent of U.S. imports, or about 7 percent of U.S. petroleum consumption, are derived from sources in the Middle East.

Accordingly, the member companies of the National Steel Producers Association support changes in U.S. tax policy which will result in a strong U.S. economy and competitive U.S. manufacturing industries, including our energy industries. We do not believe that a tax on imported oil is consistent with this objective. Therefore we oppose any legislation including that contained in S. 694, which would lead to the imposition of a tax on oil imports, a step which would require Presidential action ultimately harmful to the U.S. economy.

STATEMENT

On

S. 694

National Energy Policy & Security Act of 1987

Before The

Subcommittee on Energy Regulation and Conservation

Committee on Energy and Natural Resources

United States Senate

Presented by

George P. Mitchell

Chairman and President

Mitchell Energy & Development Corp.

The Woodlands, Texas

June 2, 1987

Mr. Chairman and Members of the Committee:

My name is George P. Mitchell, and I am chairman and president of Mitchell Energy & Development Corp., an independent petroleum company which operates predominantly in the United States. I am also a member of the National Petroleum Council and have been involved in natural gas and oil exploration and production for more than 40 years.

I appreciate the opportunity to comment on S. 694, which I support as a positive first step in that it would require the President to take action if the nation were in danger of reaching the 50 percent "peril point" level of oil imports. Unfortunately, we are about to reach that level in the very near future, perhaps as soon as 1989 or 1990. Furthermore, recent events in the Persian Gulf--including the attack on the U.S.S. Stark with the loss of 37 seamen and the more recent decision by the administration to re-flag and escort Kuwaiti tankers--amply illustrate the very real dangers associated with America's growing dependence on imported oil.

Our view is that the only measure likely to reverse the import trend in the immediate future is a variable tariff on all imported oil and petroleum products. Such a tariff or "market access fee" should be "clean," the only exception being the petrochemical companies that use imported oil and immediately export the product produced from the oil.

The reason an oil import fee is so vital to the nation's energy security is that it is the only proposal that attacks the import dependence problem at its source: those nations with huge, low-cost reserves that can be and indeed have been employed to drive out marginal production in the United States.

Mideast OPEC nations control about 400 billion barrels of recoverable oil reserves. That represents two-thirds of the free world's supply, or 60 percent of the entire world's known oil. The United States, by contrast, has only 28 billion barrels of proved reserves. Ours are "mature" reserves. In other words, most of the easy, cheap finds already have been made.

According to DeGolyer and MacNaughton's Twentieth Century Petroleum Statistics, 1986, our nation's 650,000 producing wells represent more than 85 percent of the free world's total. Those mature American wells have an average daily production of about 14 barrels per well. Mideast OPEC, on the other hand, has only 3,000 producing wells, but theirs average 3,100 barrels of production per day. More significantly, the ratio of proved oil reserves per producing well is nearly 3,000 times higher in the Middle East than in the U.S. Yet those prolific Mideast reserves can be discovered and produced for less than $2 per barrel on average. In the United States, such finding and production costs average more than $17.50 per barrel. Our costs are at least 8 to 10 times higher.

These comparative statistics should make it abundantly clear that it is impossible for American producers to cut costs enough to overcome such a tremendous advantage. Similarly, proposals now under consideration, from restoration of the depletion allowance to repeal of the Windfall Profit Tax, while certainly needed, will not provide sufficient economic incentive to overcome Mideast OPEC's cost and reserve advantage. In any case, they would not even begin to have any measurable effect on domestic drilling for several years.

Domestic oil companies cannot plan drilling and exploration programs if they can be rendered uneconomic at any time by foreign producers who can send prices tumbling simply by flooding the world market with cheap oil. Operators and investors alike are understandably reluctant to commit their money to ventures whose economics are dependent upon the whims of foreign cartels. It is this uncertainty, every bit as much as the low prices, that has virtually halted oil and gas exploration in this country.

Currently, we are consuming our existing gas and oil reserves but not replacing those reserves with new discoveries. As a result, the nation is rapidly approaching an intolerable dependency on foreign sources. More and more of this increased reliance is on the Persian Gulf--the most volatile, unstable, dangerous region on Earth.

It was only 14 years ago that Middle Eastern OPEC states imposed a costly oil embargo on the United States. As a result of that and subsequent events in the region, oil prices increased 12-fold, inflation and unemployment rose, consumers were subjected to gasoline lines and spot shortages, and the nation's balance of payments deficit was severely impacted. That "Energy Crisis" now appears to have been largely forgotten. We are well on our way to a repeat of the 1970s unless action is taken now to avert another energy disaster. In fact, imports now exceed the 36 percent level that existed at the time of the 1973 OPEC embargo.

America's increased military presence in the Persian Gulf makes little sense unless viewed in the overall context of national energy security. While I do not advocate pulling out of the region, one would expect the administration and Congress to defend our domestic energy productive capacity at least as vigorously as they apparently are willing to defend the energy interests of Mideast oil producers and our major trade competitors.

In the wake of the tragic missile attack on the Stark, former Navy Secretary John Lehman, in published and broadcast interviews, provided a glimpse of just what our commitment to protect Persian Gulf oil supply lines is costing the nation in dollar terms. He put the total cost at approximately $40 billion per year. If we divide that figure by the 334 million barrels of oil the United States imported from the region last year, and then add in the $19 per barrel world price, we find that Persian Gulf oil is costing the United States about $140 per barrel. In other words, we are providing a $120 per barrel subsidy to Mideast oil producers at a time when those very same producers are employing a pricing strategy designed to drive our own domestic oil companies out of business.

Furthermore, since the United States, with less than 6 percent dependence on the Persian Gulf, is the only Western nation committed to defend the region, we are also subsidizing the energy costs of our major trade competitors. Japan is dependent upon the region for about 54 percent of its requirements, Western Europe for 30 percent.

Import fee opponents are quick to point out how the tariff would raise U.S. manufacturing costs, making U.S. goods less competitive in world markets. But they conveniently ignore the energy subsidy we provide our competitors by unilaterally protecting their oil in the Persian Gulf.

The United States government should at least maintain a level playing field for domestic oil producers. A variable import fee would greatly assist in redressing the imbalance.

The subject of oil import fees has not been given a fair hearing by many of the administration's studies conducted in the aftermath of the oil price collapse.

Higher stakes in the Middle East and the continuing growth in our reliance upon this unstable region's oil resources make it imperative that the import fee be re-examined with an open mind. The nation's security is at risk, and the threat looms ever larger with every day that passes without the protection such a tariff would provide.

I thank you, Mr. Chairman and members of the Committee, for this opportunity to be heard on this vital matter of concern to our country.

STATEMENT OF THE SPECIALTY STEEL INDUSTRY
OF THE UNITED STATES
ON
S. 694, ENERGY SECURITY ACT OF 1987

TO

THE SUBCOMMITTEE ON ENERGY REGULATION AND CONSERVATION
COMMITTEE ON ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE

June 15, 1987

The Specialty Steel Industry of the United States is pleased to submit this statement on S. 694 — the Energy Security Act of 1987. The Specialty Steel Industry of the United States is a non-profit trade association comprised of domestic producers of specialty steel representing approximately 90 percent of all U.S. production of specialty steel, including stainless and alloy tool steel. These high-value products are generally produced in small custom-tailored quantities for applications that demand special durability, hardness or resistance to heat, corrosion and abrasion. Because of these unique properties, specialty steels have been essential to all aspects of our domestic economy and national defense. The names and localities of the firms comprising the association are contained in Exhibit 1 to this statement.

The domestic specialty steel industry vigorously opposes S. 694. The bill, if enacted into law, would establish an automatic mechanism by which the President could limit petroleum imports from zero to 50 percent of domestic consumption, without further action by Congress. Once establishing the appropriate level, the President would be required to propose action to prevent the projected level of imports from exceeding the predetermined threshold. Congress would have to enact a law modifying the proposed action to prevent it from taking effect.

The specialty steel industry's opposition to the legislation is based on the fact that the proposal would likely result in the automatic triggering of an oil import tax or quota, and thereby increase energy costs to this import sensitive, energy dependent domestic industry. As the Subcommittee may be aware, the specialty steel industry petitioned for, and received import relief under Section 201 of the Trade Act of 1974. Since July 1983, imports of most specialty steel products have been subjected to a program of quantitative restraints and digressive tariffs that are scheduled to expire on July 19, 1987 unless the President agrees to extend that program another three years. The industry has petitioned for such an extension, and in connection with that petition requested that the U.S. International Trade Commission investigate the probable economic effects of a termination of import relief. In its published findings, a majority of the International Trade Commission noted that significant improvements in productivity and profitability have occurred in the industry since the onset of import relief, and that those improvements reflected both "adjustment efforts and declines in raw material and energy costs."[1] It is inconceivable that Congress should now pass legislation that might undo many of the productivity and profitability gains achieved by this industry during the period of import relief.

It goes without saying that specialty steel production is a highly energy-intensive activity. Industry sources estimate that energy costs amount to 5-10 percent of the industry's total cost of production. Any increase in oil prices will have an effect not only on the cost of petroleum products, but it will have a ripple effect on the costs of other forms of energy as well. For example, Data Resources Inc. estimates that a five dollar per barrel oil import fee would not only raise petroleum product prices 20.3 percent over the next five years, it would also raise natural gas prices 19.2 percent, coal prices 5.1 percent and electricity prices 6.1 percent. Such increases would undermine the adjustment process undertaken by domestic specialty steel producers; an adjustment process that has seen this industry expending over $300 million in capital investment over the past three years to ensure its competitiveness. The illogic of the policy embodied in this legislation is further reflected in the fact that oil prices are down; the strategic petroleum reserve now contains 520 million barrels; and more than 38 percent of U.S. imports come from dependable suppliers such as Venezuela, Canada and Mexico. Clearly, the "energy security" sought by the proponents of this legislation has already been achieved.

The domestic specialty steel industry is a modern and competitively viable industry that has invested heavily to maintain its international competitiveness. The

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1/ Stainless Steel and Alloy Tool Steel, Inv. No. TA-203-16, USITC Pub. 1975 (1987) at 7.

President himself has concurred in this assessment. As an industry that has successfully reduced its costs and improved its productivity, the domestic industry cannot comprehend how an oil import tax can be rationally justified when the competitiveness of U.S. industry in general is being called into question. The Specialty Steel Industry of the United States, therefore, opposes any measure that will result in the unnecessary imposition of a tax on oil imports. Such a measure would undermine the substantial efforts that have been made by this strategically important industry to ensure its long-term competitiveness.

EXHIBIT 1

MEMBERS OF THE SPECIALTY STEEL INDUSTRY OF THE UNITED STATES

Allegheny Ludlum Corporation
100 Six PPG Place
Pittsburgh, Pennsylvania 15222-5479

AL Tech Specialty Steel Corporation
P.O. Box 152
Dunkirk, New York 14048

ARMCO Specialty Steel Division
P.O. Box 832
Butler, Pennsylvania 16001

Carpenter Technology Corporation
P.O. Box 662
Reading, Pennsylvania 19603

Columbia Tool Steel Company
Lincoln Highway and State Street
Chicago Heights, Illinois 60411

Crucible Specialty Metals Division
Crucible Materials Corporation
P.O. Box 977
Syracuse, New Yok 13201

Cyclops Corporation
Cyclops Building
650 Washington Road
Pittsburgh, Pennsylvania 15228

Jessop Steel Company
Jessop Place
Washington, Pennsylvania 15301

J&L Specialty Products Company
1600 West Carson Street
Pittsburgh, Pennsylvania 15263

Latrobe Steel Company
Latrobe, Pennsylvania 15650

Slater Steels Corporation
Fort Wayne Specialty Alloy Division
2400 Taylor Street West
Fort Wayne, Indiana 46801

Teledyne Vasco
P.O. Box 151
Latrobe, Pennsylvania 15650

NATIONAL TAXPAYERS UNION

A NONPARTISAN, NONPROFIT ORGANIZATION DEDICATED TO THE PUBLIC INTEREST

325 PENNSYLVANIA AVENUE, SOUTHEAST   WASHINGTON, DISTRICT OF COLUMBIA 20003   TELEPHONE AREA CODE (202) 543-[illegible]

June 2, 1987   6/10

Senator Howard Metzenbaum
Chairman, Subcommittee on Energy
  Regulation & Conservation
U.S. Senate
Washington, DC 20510

Dear Senator Metzenbaum:

The National Taxpayers Union strongly opposes S. 694, "The Energy Security Act of 1987," introduced by Senator Bentsen (D-TX) and recently adopted as an amendment to S. 490, the omnibus trade bill. We feel that the provision is unwise, unfair and probably unconstitutional.

The Energy Security Act would require the President to annually project the level of oil imports for the next three years. The President would be required to "establish a national oil import ceiling which shall represent a ceiling level beyond which foreign crude and oil product imports as a share of United States oil consumption shall not rise." However, the President may not establish the ceiling any higher than 50 percent. If the import level of oil was forecast to be greater than the ceiling, the President would be rquired to take action to reduce imports, including possible import taxes on oil.

This bill would essentially give the President the power to enact a tax increase. Worse, there is no limit on the rate or the duration of the tax.

The Energy Security Act may not be constitutional. It is the prerogative of Congress, not the President, to establish tax policy. Yet this amendment specifically allows the President to use various forms of taxation in order to rectify the oil import imbalance. The provision appears to delegate too much taxing power to the President. The most dangerous aspect of this proposal is that it probably would take two-thirds of each house of Congress to stop the tax increase. We all know how long it can take Congress to make a decision on contentious issues such as these. Yet this amendment allows Congress only 90 days to approve a disapproval resolution and then override an inevitable presidential veto.

Because of the many regional interests concerning this issue, it is inherently subject to political games. Considering that oil industry states make up nearly one-third of Congress, it would be difficult to override a president's actions on oil imports.

This bill plays into the hands of presidential candidates, such as Congressman Dick Gephardt, who may advocate an oil import fee in pursuit of Gulf region votes during next year's "Super Tuesday" southern regional primary. After being elected, the new president could enact an oil import fee, meeting his campaign promise to the Gulf region, even though well over half of the Congress disagrees.

At a time when the U.S. economy is struggling to be globally competitive, presidential actions under the Energy Security Act could be devastating to our economy, causing a precipitous increase in unemployment and inflation and a decrease in the Gross National Product. A Department of Energy study found that an oil import fee could increase employment in the oil industry by 120,000 jobs. Yet the side effects of higher energy prices could reduce employment in other sectors of the economy by 400,000 jobs.

According to an analysis by Data Resources, Inc., an oil import fee of $5 per barrel imposed in 1987 would cause the Consumer Price Index to increase by .5%. Additionally, they found that a $5 a barrel tax would cause real GNP to be 0.2%, 0.7%, 1.3% and 1.2% lower in 1987, 1988, 1989 and 1990 respectively, than it would be without such a tax.

In conclusion, the National Taxpayers Union shares the concerns about the troubles of oil industry. However, we feel that these problems should not be solved at the expense of the average American taxpayer and American industry. We urge that the Committee recommend additional actions to improve the competitiveness of the energy sector through removal of the oil ("windfall profit") excise tax and deregulation of natural gas.

Please make this letter part of the hearing record.

Sincerely,

David L. Keating
Executive Vice President

M2:4

The Society of the
Plastics Industry, Inc.

News

1275 K Street, N.W. — Suite 400
Washington, D.C. 20005
(202) 371-5200

87-116

Contact: Laura McAllister-Maurice
(202) 371-5212

Subject: U.S. Plastics Industry Opposes
Oil Import Tax

FOR IMMEDIATE RELEASE

WASHINGTON (June 2, 1987) -- The Society of the Plastics Industry, Inc. (SPI), today urged opposition to legislation intended to cap oil imports at 50 percent of U.S. consumption, maintaining that such a cap could lead to government-imposed oil import quotas or taxes.

SPI's position was in response to congressional consideration today of an oil imports bill at a hearing of the Senate Energy and Natural Resources Subcommittee on Regulation and Conservation. The legislation, S. 694, introduced by Senate Finance Committee Chairman Lloyd Bentsen (D-TX), would require the President to send Congress an annual forecast of oil imports for the upcoming three years. If imports were predicted to rise above 50 percent of U.S. supplies, the President would have to implement policies, such as an oil import tax, to stop the increase. The bill has been attached to trade legislation expected to be considered on the Senate floor in late June.

SPI historically has opposed any tax that would discriminate against petrochemical feedstocks, from which most of the plastics industry's raw materials are derived. An oil import tax or other energy tax would have a negative impact on U.S. industry's ability to compete domestically against imported plastic products that do not carry the additional cost of a tax. Furthermore, an oil tax would make it difficult for U.S. industry to compete abroad against foreign goods that do not carry an added tax.

The Society of the Plastics Industry, Inc., is a trade organization of more than 1,900 members representing all segments of the plastics industry in the United States. SPI's operating units and committees are composed of resin manufacturers, distributors, machinery manufacturers, plastics processors, moldmakers and other industry-related groups and individuals. Founded in 1937, SPI serves as the "voice" of the plastics industry.

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UNION CARBIDE CORPORATION 39 OLD RIDGEBURY ROAD, DANBURY, CT 06817-0001

ROBERT D KENNEDY
CHAIRMAN AND CHIEF EXECUTIVE OFFICER

May 28, 1987

The Honorable Howard M. Metzenbaum
Chairman, Energy Regulation
and Conservation Subcommitttee
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

For the Hearing record please note that the Union Carbide Corporation is strongly opposed to the provision in the Finance Committee-approved Trade Bill (section 232 of S.490) that would prevent this nation from importing 50 percent or more of its oil consumption. When this percentage level is projected to occur it will trigger Government intervention, which could easily result in oil import quotas or taxes because they are among the very few ways to ensure that this cap is not exceeded.

Any legislation that could result in U.S. energy prices exceeding world energy prices would have serious adverse consequences for the U.S. chemical industry, its many customers and the U.S. consumer. If our foreign competition in markets both here and abroad is handed this advantage via quotas or taxes, not only will the current chemical industry trade surplus shrink further but lost sales in this country, too, could cost many thousands of chemical industry jobs in the U.S.

This 50 percent import ceiling is arbitrary. It infers that energy dependence is energy insecurity, and that oil supplies from Canada, Mexico, Venezuela and the North Sea are as interruptible as those from the Mid-east.

Some proponents argue that this provision merely repeats the existing law that gives the President discretion to order quotas or import taxes. We disagree. Mandating the Administration to hold oil imports to under 50 percent is quite different from the Presidential discretion in current law. This Senate bill, too, would limit Congress' ability to give fair and thoughtful attention to the required Presidential proposal holding imports below 50 percent. This inability is manifested in the ninety day limitation on Congress to defeat or change the import cap plan.

This language is an unsettling and unwise means of trying to encourage domestic oil production. Further, it's a prescription of disaster for the chemical industry. We urge the Senate to oppose this provision in the bill.

Sincerely,

R D Kennedy